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TO OUR SUBSCRIBERS.

THE CHEMISTS' AND DRUGGISTS' DIARY for 1899 is now in the binders' hands, and copies to all Australasian subscribers will be despatched by this week's mail, and those for India, North and South America, the West Indies, and South Africa will follow by next week's mail to those whose subscriptions are paid up to December 31, 1893. Due notice will be given when and how copies to continental and home subscribers will be despatched. It is requested that those whose subscriptions expire this month will renew without delay, as the DIARY cannot be despatched to them until they remit *ten shillings* to pay the subscription for the C. & D. from December 1, 1893, to November 30, 1899. Prompt renewal is desirable, as we anticipate a good demand for extra copies of the DIARY, the contents being specially valuable to the trade, apart from the legal and official information, which is exceptionally complete. The DIARY contains two original sections, referred to in the following extract from the DIARY preface:—

A collection of useful formulae and scientific memoranda begins on page 263. This is very varied in character, because the interests of C. & D. subscribers are varied, and there may be found something for everyone in the collection. The longest section of the DIARY is the last, beginning on page 491. This is a commentary and criticism of the British Pharmacopœia. We have endeavoured in this to keep trade requirements continually in view. We have epitomised the exceptionally numerous and complete criticisms on the B.P. which have appeared in THE CHEMIST AND DRUGGIST, but the greater part of the treatise has been expressly written for this DIARY, special attention being given to the manufacture of chemicals, the preparation of galenicals, and descriptions of commercial varieties of drugs and how they are imported. We are able to include some of the formulae which have been missed in the B.P.

The price of the DIARY to non-subscribers is 3s. 6d., and extra copies will be supplied to subscribers at 2s. 6d. as long as they are available. Those who require extra copies should order them as soon as possible from The Publisher, 42 Cannon Street, London, E.C.

Summary.

A FURTHER STATEMENT in regard to Manila Customs duties appears on p. 813.

AN EASY METHOD OF ESTIMATING CAMPHOR in camphorated oil is described (p. 823).

A NURSE mistook the 3 for 5, so that a patient got a fatal overdose of tr. opii (p. 810).

THE DEATH OF MR CHARLES LOWE, carbolic-acid-manufacturer, is reported (p. 813).

THE DEWSBURY DISCUSSION is continued with vigour in our Correspondence columns (p. 837).

A CHEMISTS' ASSOCIATION has been formed in Burnley, with Mr. J. A. Heaton as President (p. 829).

THE BOARD OF CUSTOMS wish exporters to declare the actual destinations of goods exported (p. 823).

SOME GOOD DISPENSING-PROBLEMS were discussed by Edinburgh chemists' assistants last week (p. 831).

WHOLESALEMAN, manufacturers of proprietary articles, and retailers in U.S.A. have virtually combined (p. 823).

MR. COWLEY, of Liverpool, describes a device, which we illustrate, for drying precipitates at 120° C. (p. 833).

A SKETCH of the life of the late Mr. Swann, English pharmacist at Paris, with a portrait, is given on p. 813.

OUR CAPE CORRESPONDENT reports that the Pharmacy Bill is not likely to be further heard of this year (p. 812).

ANOTHER PRELIMINARY SKIRMISH in the Saccharin litigation has been fought in the Court of Appeal (p. 821).

PROFESSOR REYNOLDS GREEN has given an interesting lecture on yeast to the Chemists' Assistants' Association (p. 829).

ABOUT 75 PER CENT. of the candidates for the Spectacle-makers' Company diploma have passed. We print the names on p. 836.

A HOMERTON CHEMIST has been charged with threatening his wife. It transpired during the proceedings that the lady keeps a drug-store herself (p. 810).

MISS MADGSHON points out that the B.P. directions for making glycerin-suppositories are imperfect and assist in turning part of the gelatin into hard lumps (p. 830).

PORTRAITS of two other pharmaceutical Mayors—Mr. Coles, of Chippenham, and Mr. Floyd, of Bury St. Edmunds—are given this week (p. 823); we gave five last week.

THE HIGH COURT OF SCOTLAND has quashed a conviction under the Medical Act of an unqualified person who used the designation "A.M.S.," meaning thereby "American Medical Specialist" (p. 821).

THE CHEMICAL SOCIETY gave a banquet last Friday in honour of six Past-Presidents who have been Fellows for half a century. We report the proceedings, and give portraits of the men honoured (p. 815).

PROVINCIAL CRITICISM OF THE NEW B.P. has been started by Glasgow and Manchester. Speakers generally acknowledge improvements, and give many suggestions for still further advance in that direction (pp. 831-4).

AT the annual dinner of the Western Chemists' Association of London the President of the Pharmaceutical Society has expounded the difficulties which the Council see in the way of legislation concerning companies (p. 835).

BUSINESS amongst manufacturers, agents, and wholesalers is fair this week. German camphor is 1d. per lb. dearer, and quinine is firmer. Ergot continues to sell at high rates; and Sumatra benzoin, buchu, copaiba, and jalap may be ranked amongst the articles tending higher (p. 840).

MR. W. B. CONYNGHAM has applied to the Queen's Bench Division of the High Court, Dublin, for a *mandamus* to compel the Pharmaceutical Council to admit him to the Licence examination, which they had declined because he had served part of his time with a limited company. He got a *mandamus*, the Court holding that a limited company is a firm for the purposes of this regulation (p. 818).

Students' Corner.

CONDUCTED BY RICHARD J. MOSS, F.I.C., F.C.S.

QUALITATIVE ANALYSIS.

FOR the next exercise in qualitative analysis a mixture of not more than three salts will be issued. The mixture is to be submitted to a thorough systematic examination with the view, not only of detecting the substances present, but of proving others to be absent.

Students' applications for portions of the mixture of salts will be received up to Wednesday, November 23, and the samples will be forwarded immediately. Each application should be accompanied by a stamped and addressed envelope, not a stamp merely.

Students' reports will be received up to Saturday, December 3. Each report should contain a concise account of the work done, with a list of the substances detected, mere impurities being distinguished from the essential constituents of the salts composing the mixture.

The report of last month's competition is held over.

English News.

Local newspapers containing marked items of news interesting to the trade are always welcomed by the Editor.

Nurse Mistakes the Drachm Sign.

On November 10, Mr. A. Braxton Hicks held a resumed inquiry, at Kingston, in reference to the death of W. J. Mackey, an inmate of the Tolworth Isolation Hospital. Deceased was suffering from typhoid fever. From the matron's evidence it appeared that the doctor instructed a nurse to administer a starch enema containing 3ss. of tincture of opium which the nurse seems to have misread for ʒss. Nurse Rice related how she had mistaken the symbols owing to their similarity. She had been taught the symbols and the mixing of medicines, but this was the first time she had had the administration of this kind of enema. She had been two and a half years at the hospital. She did not know that $\frac{1}{2}$ oz. of laudanum was poisonous. The jury returned a verdict of death from an overdose of opium, and expressed their opinion that much greater care should be exercised in dispensing poisonous drugs. The Coroner: I quite agree with you.

Following the Chemists' Lead.

At a meeting of the Bradford and District Grocers' and Provision Dealers' Association held on November 7, it was reported that the Chemists' and Druggists' Association had appointed Mr. S. N. Pickard to attend with representatives of other trades on a deputation to the Bradford Watch Committee, with reference to a proposal that the Corporation should cease to charge for the testing of weights and measures in all cases where these were found to be correct. A very general opinion was expressed at this meeting that it would be greatly to the advantage of tradesmen if a joint council was formed for the city to deal with matters affecting the joint interests of various trades, and it was determined to approach the Chemists' Association and others with this purpose in view.

A Lady Chemist.

George W. Porrett (53), chemist, of Bridge Street, Homerton, was charged at North London Police Court, on Tuesday, with threatening his wife, Elizabeth Porrett. The complainant, a smart little woman, said her husband had so threatened and beaten her that she was afraid to live with him. Two years ago she got a separation from him, but he would not leave her alone, and was repeatedly forcing his way into her house. Mr. Fordham: How do you get

your living? The Complainant: I keep a little drug-store—sell odds and ends. The Prisoner: But she could not sell those things without my aid. Mr. Fordham (to the complainant): What knowledge have you of the drug-trade? The Complainant: What I have picked up through being in the business with him. The prisoner was sworn, and denied all the allegations against him. The separation-order, he said, was obtained under duress when he was in difficulties. His father had been Mayor of Sheffield, and he had a brother a solicitor. He himself was a qualified chemist and druggist, and had an annuity from his mother, which reached 5*l.* or 6*l.* a month, and the major portion of this he allowed his wife. He loved his wife and children. He got up every morning, and got his wife's breakfast and prepared his little son and daughter for school. His little boy took up his ma's tea, and the little girl took the toast. He had done all he could for his wife, and all the disturbances were because she associated with women he objected to whilst he was in hospital with a broken leg. Mr. Fordham: I shall bind you both over in your own recognisances to keep the peace. The Prisoner: Most willingly. The Complainant: And what am I to do? Is he to come and disturb me in my business? The disgraceful thing! I can't live anywhere for him. She then left the court.

Dr. E. M. Grace on Laudanum-taking.

Dr. E. M. Grace, coroner for the Lower Division of Gloucester, held an inquest on November 11, at Horsley, concerning the death of an infant to whom the mother had given five drops of laudanum. Dr. Grace remarked on the dangerous practice of taking opium, which was on the increase among adults. It was a far more pernicious habit than drink; in fact, drink was not to be compared with it. The habit, when once cultivated, could not be broken off at once without most serious risk. Dr. Norman, who gave evidence in the case, said there were people who took opium daily before breakfast.

Benzine as a Poison.

At Winkfield last week, a nurse named Florence Emma Budge, for some unexplained reason, poured a quantity of benzine into a tumbler and drank it off. A doctor was sent for, who treated her, and she recovered. She appeared before the Magistrates at Maidenhead Police Court, on November 5, and was cautioned and discharged.

Sucked the Lavender-bag.

On November 10, an inquest was held at Chelsea, on the body of a child of seven and a half months. On the previous Friday the child got hold of a muslin bag of lavender-flowers and sucked it. The next day the child was seized with sickness and died on the Monday. It was stated that the lavender-bag had been made for two years. Dr. Flood said he made a *post-mortem*, and found death was due to irritation set up by sucking a bag of lavender. A verdict of accidental death was returned.

Pure Drugs in Kent.

Mr. M. A. Adams, public analyst for Kent, reported at a meeting of the County Council, on November 16, that the whole of the twenty-one samples of drugs analysed by him during the past quarter were pure and free from adulteration.

As Compensation.

Mr. Henry Thomas, an unqualified medical practitioner who has for some years acted for Wisbech Town Council has, owing to the decision of the Medical Council, been debarred from further continuing his services. The ratepayers have, therefore, presented him with a purse containing 100*l.*, and an album containing an illuminated address and list of subscribers.

Explosion in a Chemist's Shop.

A son of Mr. W. Pratt, chemist, Shipston-on-Stour, went into the cellar of his father's pharmacy with a light. A bottle was upset, and some spirit-fumes coming in contact with the light an explosion ensued. Mr. Pratt, jun., was badly burnt on one side, and was laid up for a week.

A Mysterious Explosion.

A few days ago a workman, named Lawrenson, in the works of the United Alkali Company at Runcorn, was engaged in extracting gold from ore by the cyanide process. In this process a large tank was used for cooling the gases—a mixture of nitric oxide, hydrocyanic acid, and steam—conveyed through it in pipes. In the pipes was a deposit of carbon and a compound caused by the decomposition of hydrocyanic acid. When Lawrenson turned a large tap communicating with the powder, the friction caused a detonation which ignited the gases, and an explosion ensued, inflicting such injuries on Lawrenson that he died. At the inquest, on November 15, Dr. Raschen, the consulting chemist of the company, said he did not know that nitric oxide would explode. The fact came to him as a surprise. A verdict of accidental death was returned.

Deaths by Mistake.

A labourer, named Pouncett, died at Salford through drinking a quantity of Cooper's insect-fluid in mistake for tea. At the inquest, which was held on November 12, Dr. O'Kelly drew attention to the fact that the poison was supplied without a distinct label.

A woman named Evans, living at Tryddan, near Mold, was suffering from some affection of the eyes, for which she was using an atropine eye-lotion. Her infant, 19 months old, was also under medical treatment. The medicine-bottles got mixed, and the child died from atropine-poisoning. An inquest was held at Mold, on November 11, and, after a long inquiry, a verdict of death from misadventure was returned.

Football.

Metropolitan College of Pharmacy F.C. v. Kensington Rangers Reserves. Played at Lake-side Farm, Southfields, on Saturday, November 12, and ended in a draw, 3 all.

At Homerton, on Saturday, November 12, the Westminster College of Pharmacy F.C. beat the South London College of Pharmacy F.C. by 1 goal to *nil*.

Cricket Championship in the Drug-trade.

A preliminary meeting of cricket-club secretaries was held on November 11 at the offices of Messrs. Burgoyne, Burbidges & Co., Mr. C. A. Hill presiding. The following firms were represented:—Allen & Hanburys, Burgoyne, Burbidges & Co., Burroughs, Wellcome & Co., Davy, Hill & Co., Hewlett & Son, Howards & Sons. It was resolved to form a league amongst the wholesale druggists and manufacturing chemists to compete for a cricket challenge-cup. It was further resolved that only *bona-fide* present employees and principals of firms be allowed to take part in the championship matches, and that this rule be strictly adhered to. It is not yet known what firms will compete for the cup; the matter is still in progress.

Blackmail Charges.

On November 16, at the Mansion House, Richard Chrimes, *alias* Randall, a grocer, and Edward Chrimes, *alias* Knowles, were charged with threatening to accuse Kate Clifford of a crime with intent to extort money. Mention was made of the circumstances in the *C. & D.*, October 15, page 620, which took place in connection with the "Lady Montrose's Medicine Tablets." Evidence was taken as to the offices used by the prisoners and their methods of business, as well as from persons who received the circulars complained of. Alderman Sir H. Davies thought the case was one of considerable importance, and remanded the prisoners so that the case could be taken up by the City Solicitor.

Irish News.

Local newspapers containing marked items of news interesting to the trade are always welcomed by the Editor.

A Chance for a Chemist.

The Guardians of the South Dublin Union are about to appoint a pharmaceutical chemist for the Grand Canal Street Dispensary *vice* Mr. W. R. O. Barker, M.P.S.I., resigned. The

position is worth 125*l.* per annum, with quarters, fire, and light.

Alarmed for Her Majesty.

A well-known Dublin physician recently conveyed to his class through the medium of the blackboard the information that he had been appointed honorary medical adviser to her Majesty. During his temporary absence from the lecture-theatre one of the students burlesqued the announcement by chalking underneath "God save the Queen."

Chemical-works Restarts.

The Glenarm Chemical-works, the property of the Eglinton Chemical Company (Limited), which, owing to some dispute between the directors and the employees, has been stopped for some time, again resumed operations on November 4. It is stated that the company have obtained from Lord Antrim a renewal of their lease of the premises, which lapsed on October 29.

The Castle not Responsible.

A man named Murphy was committed for trial on a charge of obtaining by false pretences the sum of 6*s.* from John J. Kinsella, an assistant in Mr. John Mannin's pharmacy, by representing that he had an account in the London and Westminster Bank, and that he was a veterinary surgeon employed at Dublin Castle at a salary of a guinea a day, both of which statements were untrue.

An Aerated-water Bottle Case.

In a Dublin police-court, on November 10, Mr. Thomas Byrne, F.C.S., trading as the "Excelsior Mineral-water Company," was summoned by the Mineral-water Association for having illegally used bottles belonging to Messrs. Cantrell & Cochrane, Thwaites & Co., Shanks & Co., Bewby & Draper, Taylor & Co., and the Artesian Company. The defendant admitted the offence. There were ten separate charges. The Magistrate imposed a fine of 10*s.* and 1*l.* in each case, making in all 5*l.* fine, and 10*l.* costs.

Body-and-soul Treatment.

A Limerick correspondent sends us a circular issued in that city by "J. John Long, M.B.," who appears to keep an open dispensary there. On the circular he states his "free hours," and quotes the verse, "Heal the sick . . . and say unto them, the Kingdom of God is come nigh unto you," St. Luke, x, 9. Mr. Long says he has been falsely accused of speaking against the virginity of the Blessed Virgin, and in other ways slandered and misrepresented; so he declares at considerable length his creed, and explains that when patients come to him to have their bodies healed his plan is to speak also to their heavy-laden sin-sick souls.

The Cork Medicine-contract.

We last left this dispute in the position that the present contractors, the Cork Chemical and Drug Company, had written denying the truth of Messrs. Leslie's allegation of "favouritism," and showing that on the basis of calculation adopted at the Union their tender came to 507*l.*, whilst Messrs. Leslie's amounted to 571*l.* The Guardians resolved to ask Messrs. Leslie & Co. for justification of their charge. Messrs. Leslie's reply was read at last week's meeting of the Cork Guardians, as follows:—

36 Bride Street, Dublin,
November 3, 1898.

DEAR SIR,—Yours of the 2nd inst. to hand this morning. We have asked our authority if he had any objection to our giving his name, and he says that he does not wish his name brought into the matter at all. We shall have much pleasure in tendering for medicines to your Union, provided that the lowest tender gets the contract. We shall also have much pleasure in sending samples of our goods so that the Guardians could see that they are thoroughly up to the mark. Of course, we understand that when there is only a small difference 'twixt the different tenders that a local firm paying rates in your city should justly have the preference. That is only reasonable.

We are your obedient servants,
(Signed) P. A. LESLIE & Co.

Some indignation at the tone of this reply was expressed, and it was unanimously resolved that Messrs. Leslie & Co. should be called upon for an apology for their allegations, failing which legal action was talked about.

French News.

(From our Paris Correspondent.)

A NEW PROCESS FOR REFINING SUGAR is claimed by a French chemist M. R. Langlois, which occupies a few hours instead of more than a fortnight, which is the time at present required in refineries. It is described as a cheap and easy method for transforming raw sugar made from either beetroots or cane, and the properties of sugar treated by the new method, as well as the appearance, are exactly similar to those of sugar refined by the old process.

ACETYLENE-EXPLOSION.—A serious explosion of acetylene gas occurred a few days ago at the Château de Saint-Quentin, near Alhi. The owner, M. Bousquel, recently installed an apparatus for acetylene-lighting, and an escape of the gas being noticed, he called in a chemist and a locksmith to find the escape. They searched for it with a lighted candle, and the inevitable explosion followed. In some inexplicable way it came from beneath them, blowing the flooring up. M. Bousquel and a young niece of his were seriously injured as well as the locksmith, but the chemist escaped with only the shock.

"THE STUDENT'S GUIDE TO PHARMACY," by M. E. Madoulé, Secretary of the Paris School of Pharmacy, has recently been issued for the 1898-99 course, being the fourth edition of this useful little work. On this occasion the guide has been enlarged and improved, and claims to be the *vade mecum* of the pharmacy-student for either the civil, military, or naval career. Students of foreign nationality are informed that the same regulations that apply to French students also apply to them. But foreigners cannot be admitted to the school unless they possess the diplomas or certificates of general preliminary studies required of Frenchmen, or have obtained a Ministerial decision dispensing with them. If they desire to obtain the diploma authorising them to practise pharmacy in France they must follow the entire course of apprenticeship, school terms, and examinations. This is in accordance with the law passed last April, which also stipulates reciprocity in the matter of the final diploma—that is, a Frenchman must be able to obtain a diploma in the country to which the foreigner belongs on the same terms as the latter can obtain one in France. In addition to this there is also the special or honorary diploma, which gives the alien no right to commence business in France, and is really a kind of certificate of studies.

A ROMANTIC STORY DESTROYED.—Some years ago a crime that has remained unpunished was perpetrated in Paris. M. Lagrange, a pharmacien of the Place Beauvau, and his servant were mysteriously assassinated, and a man named Walder was accused of the crime, but he disappeared. The matter recently came before the public again under the following circumstances. A M. Gaillet is issuing a series of publications in pamphlet form entitled: "*Le Crime à travers les Siècles*," in which the leading crimes known to history are described in a more or less fantastical way. One of the stories has been devoted to "Walder, the undiscoverable assassin of the Place Beauvau," and amongst other statements was one to the effect that Walder took refuge in America after the crime, where he amassed a large fortune. There he met a certain "William," who won his confidence. Walder told him the story of his crime, and handed him a sum of 600,000f., to be distributed between the murdered pharmacien's widow and the relations of the servant girl. William, the story went on, accepted the mission, and handed a sum of 200,000f. to Madame Lagrange, the widow of the murdered pharmacien. This, it was added, she accepted. There was no foundation for this fantastic sequel to the murder. Mme. Lagrange is still living in quiet retirement at Vernon, and had received no money at all. She was naturally greatly upset at the suggestion that she had accepted conscience money from her husband's murderer. She appealed to the author and publisher to have the objectionable passages suppressed or altered on the ground that, if not exactly libellous, they were likely to lower her in the estimation of her neighbours. The changes were promised, but not made; and consequently the pharmacien's widow brought an action for damages against the author and publisher. She has been awarded 5,000f. (200l.) damages.

South African News.

(From our own Correspondents.)

OFFICIAL ITEMS.—There is some talk of the Government making inquiries as to the quality of the colonial vaccine-lymph produced at the Institute, Grahamstown. The new Pharmacy Bill has not yet received the attention of Parliament, nor is it likely to this year.

FRUSTRATED.—The offices occupied by Messrs. A. J. White (Limited), in Cape Town, were entered by robbers on the night of October 21, and, from the outward appearance of the safe, they tried their best to get inside and gain possession of the contents—30l. and the firm's books.

FIRE.—On Sunday evening, October 23, the wholesale store of Messrs. P. J. Petersen & Co., Cape Town, was seen to be on fire by some Malays, who promptly raised the alarm. By the time the fire-brigade reached the scene the ground-floor appeared to be well alight, and volumes of smoke, caused by the burning of chemicals, made their way through every conceivable place. Had it not been for the fact that all ventilation was practically closed, the stock, valued at about 35,000l., including the building, which is the largest of its kind in Cape Town, must have been destroyed. The damage to stock is estimated at about 750l.

TRADE-MARKS AND PATENTS.—The Vinolia Company (Limited) are registering the word "Liral," in connection with their products, for the Cape of Good Hope. Messrs. Stephen Smith & Co., Bow, E., have registered their trademark—the "Keystone with Signature"—covering their products at the Cape. Letters patent have been applied for by Ezra Lofts, Isle of Wight, in connection with "Improvements in Check-tills"; and by Thomas Derry, of Cape Town, in connection with "An invention for improvements in machinery and plant for the manufacture of acetylene-gas from calcium carbide automatically in quantities as required."

THE TRANSVAAL DOCTOR.—We have no native pharmacies here (writes a Braamfontein correspondent). The native doctors who parade the country attend to the native wants. These "doctors" are literally covered with little bottles and boxes, which are tied to the buttons or hung from the buttonholes of their jacket or vest, and sometimes are fixed to their waistbelt, when they wear one. The boxes and bottles contain all sorts of concoctions. The doctor is especially fond of camphor. For a 1-oz square of Howards' he will go through a war-dance of unlimited duration, and occasionally I put a Kaffir boy at each end of the yard, and they keep time by clapping their hands, while the doctor dances in the centre. When this "M.D. Maritzburg" fails to cure his patient, the latter wends his way to the European pharmacies, there to procure his *mistura* (Hewlett's), *jalapa* (B.P., 1898), and "*jalapa alba*, two schellem," which is common or garden mag. sulph.

THE GOVERNMENT ANALYTICAL LABORATORY, Cape Town, which is under the control of Mr. Chas. F. Juritz, M.A., assisted by five analysts, cannot be called an ideal laboratory. It is situated in the building known as the "Department of Agriculture." All samples collected within Cape Colony under the Adulteration Act are sent to Cape Town for report, while a fair number of analyses are made yearly for farmers and others. The laboratory nearly pays its way, and, considering the importance of the work done in it, it is quite time that the Government provided for the department more suitable accommodation than the stuffy rooms, which were formerly petty offices of the Agriculture Department. A representative of this journal, who recently paid a visit to the laboratories, noticed "Made in Germany" on many of the utensils. The senior analyst is a graduate of a local college, and has been in charge since the department was started six years ago. Mr. J. G. Rose is the assistant in charge of the assaying. He has done some big things on his wheel, holding the world's amateur championship for the honr's ride, covering 29½ miles.

BERZELIUS died on October 7, 1848. The Swedish Academy have been keeping his memory green by a series of meetings.

Colonial and Foreign News.

AUSTRALIAN WINES GROW IN FAVOUR. Last month the imports into the U.K. were 60,875 gals., making the total for the ten months 621,426 gals., or 87,614 gals. more than last year.

AMERICAN CHEMICAL SOCIETY.—At the October meeting of the New York section of the American Chemical Society it was unanimously resolved to invite the American Chemical Society to hold its winter meeting in New York city during the Christmas holidays.

LABORATORY EXPLOSION.—In the course of a lecture on liquid air before the chemistry class at the Polytechnic Institute of Brooklyn, on October 21, Professor Irving Fay was severely burned by the explosion of a mixture of liquid air and red phosphorus. His eyes were injured severely, but he is recovering, and his physicians believe he will recover his sight.

ITALIAN PHARMACISTS ORGANISE.—The Italian druggists of New York held a meeting at the Hotel Colombo, on October 28, and founded the "Italian Pharmaceutical Association of the United States." The new society, which has for its object the protection of the interests of Italian pharmacists in the United States, started with about twenty members.

A NEW YORK BANKRUPT.—William Brandreth, of New York, filed a petition in bankruptcy on October 18. He is a son of the late Dr. George A. Brandreth, the pill manufacturer, and had interested himself in promoting mining companies and other corporations. His liabilities amount to \$89,120. The nominal assets are very large, but the actual value is unknown.

TRADE BETWEEN GERMANY AND SIBERIA.—A trade and shipping company has recently been formed in Hamburg for the purpose of developing trade between the German ports on the Baltic and the Amoor district. The headquarters of the company are to be at Chabaromka, at the confluence of the Ussuri with the Amoor, and are to serve as agencies and sample stations for articles likely to be in demand.

ROSEMARY IN DALMATIA.—The Dalmatian deputies have drawn the attention of the Government to the neglect of herb culture in Dalmatia. Rosemary is mentioned especially as covering whole tracts and islands, but owing to the inhabitants not being acquainted with modern methods of distilling, or being without the means of procuring the necessary apparatus, half of the oil extracted from the plants is wasted.

SERBIAN IMPORT-DUTIES.—The Servian Parliament or Skupstina notifies that the undermentioned goods, among others, are now subject to the following octroi duty on importation into Servia:—Medicinal wines, such as quinine, pepsin, cinchona, Laroche, meat, and other wines, 100 dinars (1 dinar = 9½d.) per 100 kilos.; pepper, allspice, zedcary, marjoram, bay, caraway, and capers, 20 dinars per 100 kilos.; and vinegar-essences, 50 dinars per 100 kilos.

MANILA CUSTOMS DUTIES.—With reference to the notice published in this journal on November 5, to the effect that the Spanish Minister for the Colonies had received an official telegram from Manila informing him that the Spanish Customs tariff would remain in force in the Philippine Islands until November 10, and that from that date the United States tariff would be enforced, the Board of Trade are now in receipt of information to the effect that the "Spanish tariff" referred to was the Spanish tariff for the Philippines, and the "United States tariff," the tariff appended to a Presidential Order of July 12, 1898, enacting a schedule of duties to be levied on goods imported into ports or places in the Philippines in the occupation of the United States forces. These two tariffs are virtually identical, the principal difference between them being that goods from Spain will in future be subjected to the tariff rates of duty in the same way as goods coming from other countries. The tariff itself may be seen on application at the Commercial Department of the Board of Trade.

Marriages.

FORSTER—DRYBURGH.—On November 8, at Newcastle-on-Tyne, by the Rev. Dr. Ross, M.A., John Hall Forster, chemist, to Mary, second daughter of the late John Dryburgh, of Newcastle-on-Tyne.

TOWERS—COBB.—At Folkestone, on November 15, by the Rev. H. D. Dale, William Londesborough Towers, chemist and druggist, Chatham, to Alice, youngest daughter of the late Thomas Cobb, of Folkestone.

Deaths.

CORNER.—In announcing the death of Mr. T. B. Corner, of Whitby, last week, it was stated that the senior partner of the firm of Stevenson & Corner, Mr. John Stevenson, died some years ago. This statement, we are glad to learn, was an error. The paragraph should have read that Mr. Stevenson "retired" some years ago.

HAYTON.—At Rainhill, Liverpool, on November 9, Mr. William Pattinson Hayton. Aged 34. Deceased was a son of Mr. Pattinson Hayton, retired chemist, Wigton, with whom he served his apprenticeship.

HODDY.—On November 5, at Halstead, Essex, Mr. Benjamin Hoddy, chemist and druggist. Aged 75. The deceased gentleman retired from business a few years ago.

HORSLEY.—On November 6, Mr. T. W. Horsley, pharmaceutical chemist, late of Portobello Road, Notting Hill, W. Aged 56.

LOWE.—At Coesfan, Barmouth, on November 1, Mr. Charles Lowe, F.C.S. Aged 65. The deceased gentleman had been ailing for six months prior to his death, during which period his extensive business had been conducted by his eldest son, Mr. Clement W. Lowe. Mr. Charles Lowe was descended from a Cheshire family, and, receiving a fair education, he became assistant to Messrs. F. C. Calvert & Co., of Manchester. In the course of a few years he was taken into partnership, and subsequently became the sole proprietor of the firm. He was also the principal of "Chas. Lowe & Co.," with head offices at 43 Piccadilly, Manchester. The principal products of the firm, as is well known, have been carbolic acid, picric acid, and similar chemical products, and Mr. Lowe was the first to popularise carbolic acid as an article of commerce. The deceased took no part in political affairs, but was a member of the Reddish District Council.

MORRIS.—On November 3, Mr. S. W. Morris, chemist and druggist, formerly of Upper Fore Street, Edmonton. Aged 63.

SANDERSON.—At Birmingham, on November 2, Mr. Henry Sanderson, chemist and druggist. Aged 59.

SWANN.—Mr. Henry Hind Swann, the well-known Anglo-French pharmacien of the rue Castiglione, Paris, whose death we announced last week, was born at Grantham, Lincolnshire on March 2, 1823, and was consequently over 75 years of age. He died on Tuesday, November 8. Our Paris correspondent writes:—Mr. Swann had been very unwell since the beginning of the year, and never rallied. He was educated at Oundle Grammar School, and, after serving his apprenticeship in pharmacy, went to London at the age of 21. In 1847 he came to Paris as an assistant to the firm of Roberts & Co., then in the Place Vendôme and under the management of the late Mr. Shorthouse. Three years later, in 1850, seeing an opening for another English chemist in Paris, he commenced business on his own account. He was then 27 years of age, and his subsequent career of nearly half a century has been one of continued prosperity, and he died a wealthy man. Such is, briefly, the history of one whom I have always regarded as amongst the most courteous, upright, and just men I have been privileged to meet in or out of pharmacy. He had an enviable reputation for fair dealing, and invariably gained the respect of his assistants by the simple method of treating them as gentlemen. During his long life many English pharmacists have gained useful experience with him.

as assistants, and he always heard with certain pride and satisfaction of any who had prospered in after-years. He was a member of the British Chamber of Commerce here, a prominent figure in the English colony in Paris, and commanded universal respect, though he never took a leading part in any movement connected with the colony. Mr. Swann enjoyed the faculty of going through life at peace with all men. As a business-man of great tact, he was of sound judgment, precise, punctual, and very regular in his attendance at his pharmacy up to within the last twelve months. During the past fifteen years I have frequently had friendly chats with him, and can frankly say that I always gathered from them some useful or interesting information. He counted *THE CHEMIST AND DRUGGIST* amongst his favourite literature and was a critical reader of its contents. He held the diploma of pharmacien de 1re classe, and never forgot his experience of nervousness before the French examiners. During the Franco-German war of 1870 he was in England, but returned here after the siege of Paris and was a witness of the Commune, including the fall of the Column Vendôme. The Communists gave him a start one day by



sending a shell through one of the plate-glass windows of his shop, while firing haphazard on to Paris from the heights of Montmartre. But there was no pillaging of his premises or attempt at theft. In fact, from his experience one might get the impression that the Communists were a rather law-abiding set. He has seen them revelling in the rue Castiglione with a cask of wine, and lent them the wherewithal, such as a funnel, glasses, &c., to deplete it with, and had everything returned in good order. For a good many years past Mr. Swann made no secret of the fact that he could afford very well to retire from business, but he found directing it a pleasant way of passing his time and it brought him into contact with agreeable people—quite an ideal state of things. Of course the wholesale branch in Dr. Churchill's hypophosphites and other preparations was the most lucrative part of his trade. In all matters of business he was essentially thorough, and used to say with some pride that he knew the position of every bottle in his pharmacy. He always kept his business essentially English in character and generally had two English assistants in his employ. Depending largely for his retail-branch on the custom of wealthy visitors to Paris who stayed at the large hotels, the question of cutting-prices never troubled him. For more than forty years his regular business-hours were from 9 A.M. to 6.45 P.M., and so anxious was he to let his assistants feel that they enjoyed his confidence that he made a point of never appearing when not expected. Four of the old servants (porters, &c.) connected with the pharmacy have been in his employ thirty years or more, and three of them have had good-service medals awarded them by the French Society of Encouragement. Mr. Swann leaves a widow (*née* Mlle. Davoust) and a son, who will, however, not continue to carry on the business.

The funeral service of the late Mr. Swann took place on Saturday morning last at St. George's Church (English), Paris. The ceremony was of an imposing character, the interior of the edifice being entirely hung with black. His friends attended in large numbers, including Mr. Backhouse, of Roberts & Co., Dr. W. Douglas Hogg, the correspondent of

THE CHEMIST AND DRUGGIST, a number of English and French doctors, as well as many French pharmacists. The interment took place at the cemetery of St. Germain-en-Laye.

The brother of the deceased pharmacist, the Rev. Robert Swann, who holds a preferment near London, came over to attend the funeral. In the course of an interview last Sunday, I learned that he is junior to his deceased brother by several years, but the likeness between the two in feature, form, and height is striking. The same tall venerable figure, erect gait, snowy-white hair marked them both. Speaking of his brother's career, he said: "As became a business-man, my brother made his pharmacy the principal object of his life, and this, as you know, proved to be a successful policy. As a boy he was noted for being particularly painstaking and studious. At Oundle Grammar School he made excellent studies, and at one time there was a question of his going up to one of the Universities, but he chose pharmacy as his life's work, and it is a great satisfaction to know he has been an honour to the craft. Having been called away to religious work in the West Indies for nearly forty years, my personal intercourse with my regretted brother was, of course, rare, but we had regular correspondence, and it was he who during our late mother's lifetime made a point of going to England every year to visit her."

In the short notice of Mr. Swann's death last week, based on a telegram from Paris, allusion was made to "the late Dr. Churchill." We are sorry we made the error, but are glad to say it was an error. Dr. Churchill left Paris a good many years ago, but he is still practising as a physician at 82 Wimpole Street, Cavendish Square, W.

Personalities.

MR. JOHN ELSTOR, chemist and druggist, Rothwell, has been re-elected a member of the local School Board.

COUNCILLOR FURNESS, chemist and druggist, of 51 Milton Street, Sheffield, has been appointed Chairman of the Highways Committee on the Sheffield City Council.

MR. F. SPIVEY, chemist and druggist, Snaith, was granted a vaccination-exemption certificate under the new Vaccination Act at the Petty Sessions on November 12.

MR. ARTHUR H. COX, the head of the firm of pill-manufacturers of Brighton, completed his eighty-fifth year last Saturday, November 12. He is in excellent health.

MR. RICHARD CLARK, of Raimes, Clark & Co., Edinburgh, has been re-elected Chairman of the Parish Council, and a Deputy-Lieutenant of the city and county of Edinburgh.

THE Davy Medal of the Royal Society is this year to be conferred upon Professor J. Wislicenus, of Leipzig University, and a foreign member of the Chemical and Royal Societies.

MR. J. PATTISON GIBSON, chemist, Hexham, lectured on November 14 at the Church Institute, Newcastle, on "The Northumbrian Sea-coast." The lecture was illustrated with a capital series of limelight-views.

MR. J. A. LAMBLE, chemist, Devonport, has been returned unopposed as a representative of Clowance Ward on the Devonport Town Council, to fill a vacancy caused by the election of a councillor to the aldermanic bench.

MR. COPLEY, of Messrs. Smart & Copley, Bulawayo, is returning this week by the *Briton*. His firm have bought freehold property in Bulawayo, and intend building new premises, and Mr. Copley has been detained in England longer than he expected, selecting the fittings, &c.

MR. R. STOCKDALE, chemist, Blundellsands, Liverpool, asks us to warn the trade against a gentlemanly-looking man who is representing himself as Mr. Stockdale's brother and endeavouring to borrow money, the excuse being that his bicycle has broken down, and he is without money. He is an impostor.

ALDERMAN W. H. KITCHIN, J.P., of the firm of Wilson & Kitchin, wholesale chemists and drysalts, has been re-appointed mayor's auditor for the borough of Whitehaven. The Alderman has held this office since the incorporation of the Borough in 1834. He has also been elected a Commissioner of Whitehaven Harbour as representative of the burgesses.

Chemical Society.

Banquet to Past-Presidents who have been Fellows for Half a Century.

JOSEPH HENRY GILBERT, 1841.
EDWARD FRANKLAND, 1847.
WILLIAM ODLING, 1848.
FREDERICK AUGUSTUS ABEL, 1848.
ALEXANDER WILLIAM WILLIAMSON, 1848.
JOHN HALL GLADSTONE, 1848.

THE Chemical Society of London is the least festive of the learned Societies in the metropolis. It does not belong to the circle of royal societies, and is, therefore, outside the celebrated club which has dined many Immortals in science; nor does it whet the appetite for science by dining beforehand, like the chemico-industrial gents; the Council now and then have an "ordinary" before a meeting, and this merely helps to throw into relief the intensity in earnestness of the rank-and-file. Therefore, we expect much of the Chemical Society when it blossoms into sociality, and it was not disappointing last Friday evening at the Hotel Métropole. A more brilliant company of British chemists has never, we believe, gathered together; for, although 240 attended the Jubilee dinner of the Society in 1891, last Friday there were 264 in the Whitehall Rooms, and more would have been there had space permitted. Professor James Dewar, F.R.S., President of the Society, received the guests in the Victoria Room, and gave each one so hearty a welcome that he seemed to say, "The company would not have been complete without *you*." When dinner was announced and all had taken their places, it was seen that the President had

On the Right

Sir J. H. Gilbert
Lord Lister
Sir F. A. Abel
Lord Strathcona and Mount Royal
Dr. J. H. Gladstone
Sir G. Birdwood
Professor A. W. Rücker
Professor W. Ostwald
Sir G. G. Stokes
Mr. W. H. Preece
Dr. H. T. Böttlinger
Sir W. Huggins
Sir J. Crichton Browne
Vice-Chancellor Univ. Cam.
Sir W. Crookes
Secretary Board of Agriculture
Dr. B. Dyer, President S.P.A.
Mr. G. T. Beilby, Pres. S.C.I.

On the Left

Sir E. Frankland
Lord Reay
Professor W. Odling
Lord Rayleigh
Dr. A. W. Williamson
The Attorney-General
Professor M. Foster
Sir J. Wolfe Barry
Sir H. E. Roscoe
General Sir O. T. Burne
Sir John Evans, Treasurer R.S.
Principal of King's College, London
Sir John Donnelly
Sir Archibald Geikie
Master of Peterhouse
Mr. J. W. Swan, Pres. I.E.E.
Mr. W. Hills, Pres. P.S.G.B.
Dr. T. Stevenson, Pres. I.C.

The Vice-Chairmen were Professor H. E. Armstrong, Professor J. M. Thomson, Professor Wyndham Dunstan, Dr. T. E. Thorpe, Dr. W. P. Wynne, Professor R. Meldola, and Mr. C. E. Groves.

Amongst those present connected with pharmacy or pharmaceutical chemistry were Professor John Attfield, Mr. W. G. Blagden, Mr. E. Northway Butt, Mr. M. Carteighe, Mr. Albert Cooper, Mr. A. J. Bullen Cooper, Mr. H. Cremer Cooper, Mr. T. H. Dodd, Mr. T. S. Dymond, Mr. G. B. Francis, Mr. David Howard, Mr. D. Lloyd Howard, Mr. H. O. Huskisson, Professor S. Kipping, Dr. C. M. Luxmoore, Mr. Peter MacEwan, Professor Herbert McLeod, Mr. F. Mercer, Mr. E. J. Millard, Mr. John Robbins, Professor W. A. Tilden, Mr. T. Townson, Mr. Thomas Tyrer, and Mr. Charles Wightman.

During dinner the band of the Royal Artillery Company, under Cav. L. Zavertal, played a selection of airs. The Master of Peterhouse said grace. The scene during dinner was of the most animated description, the hum of conversation never flagging. Each guest received as a souvenir (from the President, we believe) a portrait group of the six Presidents.

Professor Dewar, after giving the loyal toasts, announced numerous letters of apology, including one from the Prince of Wales (who deplored the loss of his chemistry-teacher, Lord Playfair), and telegrams from leading scientific men.

A special vote had been passed by the Russian Chemical Society, and transmitted by Professor Mendeléeef, congratulating the Past-Presidents, "whose distinguished services during half a century stood out as a model for all investigators in chemical science." The German Chemical Society also sent congratulations.

"THE PAST-PRESIDENTS"

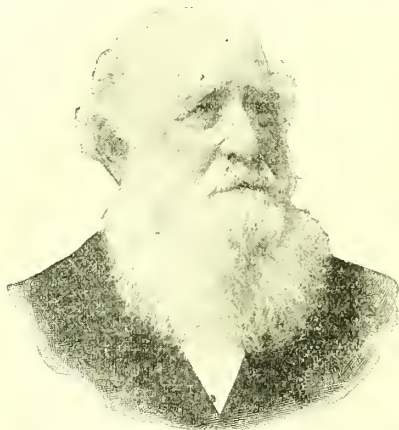
was the third toast. In giving it, Professor Dewar spoke quietly, but effectively, of the achievements of the men whom the Society delighted to honour. In the course of his speech he said: "The cultivation of chemical science has added enormously to the comfort of the people and progress of the world. We have here six illustrious examples of scientific culture and, I would add, moral influence—men who, with steady aim and vigorous eye, have laboured on in scientific work. They have added enormously to our knowledge of chemical science. It is almost impossible to overrate the work they have executed. The width of it is something appalling, for it embraces upwards of 450 separate communications and additions to knowledge. How many are unrecorded I do not say, but they have exercised an extraordinary influence in the development of chemical science. It was well that the Chemical Society should have inaugurated this banquet. They felt that they should never have such an opportunity again. There is a man on my right who worked with Professor Thomas Thomson, who saw Dalton, and who was at the beginning of the atomic theory. (Applause.) The sympathy of every chemist in the civilised world is with us in this celebration, and our guests have the warm congratulations of the learned men in chemical science in France, Holland, Germany, Sweden, Russia, Austria, the United States, and other countries. I have some of these before me. Friedel, of Paris, says about our guests, 'They form, to my mind, the finest phalanx of the fathers of the science who exist in any country.' (Applause.) Then comes Mendeléeef's message; and Professor Lieben, of Vienna, congratulates our guests on their golden wedding to the Chemical Society. This shows that the whole of our continental brethren appreciate the honour that we do to our brethren, and it shows the cosmopolitanism of science. If I attempted to classify all their individual labours three at a time, I may say that Gilbert, Abel, and Gladstone are monarchs of the dependent kingdoms; but Frankland, Odling, and Williamson are a triumvirate who have legislated towards the Imperial side of Imperial science." (Applause.) Professor Dewar then referred to work done by each of the guests. Sir Joseph Gilbert had been engaged in the study of organic chemistry as related to plant life during the past fifty years at Rothamsted, and his work was world-famed. Sir Edward Frankland—(cheers)—was the most remarkable personality of this or any other age. His life-work was absolutely unique. He had branched out into every section of scientific investigation and had come to be one of the highest authorities on sanitary questions and on the water-supply of Great Britain. The work of Professor Odling they would always regard as essential to the development of the newer chemistry; his earlier papers had introduced new ideas on notation, types, and structure. He was a man of iconoclastic ability in clearing out old notions. In Sir Frederick Abel they had a distinguished pupil of Hofmann, and the originator of the chemistry of defence—the chemistry of naval and military matters, the chemistry of explosives. He was a marvellous experimenter in the way of explosive chemistry, and had lived through the age of gunpowder to see the smokeless stuff take its place in warfare. In Dr. Williamson they saw the man who had put an end to chemical fence-sitting as expressed in the term "catalytic action." He cleared that away, and had the great merit of having originated the idea of atomic and molecular structure. The chemistry of our time would not have been without Williamson. (Hear, hear.) He found in Dr. Gladstone a type. He was a combination—like a Spottiswoode and a De la Rue with a Joule. He was not a professional scientist, but had created for himself an entirely new department in physical chemistry. Taking the six together again, the President said that as experimentalists they were not likely to see their like again, for it was impossible to imagine a more extraordinary galaxy of chemical talent than those six Past-Presidents, and the extraordinary work they had lived to achieve. He had no

doubt that posterity would regard them as six distinguished men of the Victorian epoch who advanced science in a more remarkable degree than any other body of men in any country.

The toast was drunk with three cheers and "one cheer more."

THE SIX REPLY.

Sir J. H. Gilbert said he was elected a Fellow of the Society at the first meeting. Before he was admitted to the Society he had translated papers by Reichenbracher and Liebig. He first made the acquaintance of Lyon Playfair, in 1840, through translating a paper of Liebig's on "Organic



SIR J. H. GILBERT, Ph.D., M.A. (Oxon.), Sc.D. (Camb.), LL.D., F.R.S. B. 1817. Educated at Glasgow Univ., Lond. Univ. Coll., Giessen Univ. Pres. Chem. Soc. 1882-83.

Chemistry in its Application to Agriculture," which was presented to the British Association meeting at Glasgow that year. At that time there were working in Liebig's laboratory Playfair, himself, Allen Miller, John Stenhouse, Angus Smith, and Dr. Edward Schunck. The last-named and himself are now the only survivors of the group. Schunck came into the Chemical Society in 1872. Recalling



SIR EDWARD FRANKLAND, K.C.B., Ph.D., M.D., D.C.L., LL.D., F.R.S. B. 1825. Educated at Royal School of Mines, Marburg, Hesse, Cassel and Giessen Univs. Prof. Chemistry Owens Coll. 1851-57, St. Bart.'s Hosp. 1857-63, Royal Inst. 1863-67, and Royal School of Mines 1865-85. Pres. Chem. Soc. 1871-73.

the life at Giessen at that time, Sir Joseph told the company how one evening they had one of those students' suppers for which German universities are famous, and when the last champagne-bottle was opened Playfair said, "Now, Gilbert, I will leave you to finish it." (Laughter.) After he left, the rest of the company made up their minds to go and serenade Stenhouse. He was in bed, and, amidst great laughter, Sir Joseph described how they went up to the

bedroom and surrounded poor Stenhouse with a wall of fellows singing at the pitch of their voices. In 1843 Sir Joseph became associated with Sir J. Bennett Lawes in agricultural research, to which he has devoted his life.



WILLIAM ODLING, M.A., M.B., F.R.S. B. 1829. Educated at Oxford Univ., &c. Prof. Chemistry Royal Inst. 1868-72, Oxford University from 1872. Pres. Chem. Soc. 1873-75.

Sir Edward Frankland, on rising, was received with tremendous cheers. He said that the banquet was a unique and happy idea, but there was one drawback to their enjoyment that night—viz., that one who was so recently at the head of them and their oldest Fellow, Lord Playfair, the last link between science and the State, had gone. Had he lived, they would not have made the acquaintance of that new variety of *Homo sapiens*, the conscientious objector. (Laughter.) Sir Edward proceeded to say that England was not behind any other nation in research-work, and they must not imagine that there was nothing left to discover, for, although the volume of work done had been enormous, they had merely touched boulders on the shore of knowledge, and had yet to pick up the pebbles. Dropping into less solemn vein, Sir Edward mentioned that fifty-three years ago there was a dinner of the Society at which Odling, Abel, and himself were present, and towards the close of the evening they became so enthusiastic that Abel finished up the proceedings in blank verse. (Laughter.)

Professor Odling, in a finely-uttered speech, also returned thanks, recalling that, in 1869, a special honour had been



SIR F. A. ABEL, Bart., K.C.B., D.C.L., LL.D., F.R.S. B. 1826. Prof. Chem. Royal Military Academy 1851-55, Chemist War Dept. 1854-88, Pres. Commis. Explosives 1888-91, Director Imperial Inst. Pres. Chem. Soc. 1875-77.

done to him by the Society on his retirement from the secretaryship, when they entertained him to dinner and gave him a permanent memorial in the form of a capacious loving-cup. He had also looked upon himself, not as a

precursor, but as a follower of Williamson, who was always very decided in his views, while he (Professor Odling) was always recognised as being a little unsound in the atomic theory. At the period at which he acted as Secretary of



A. W. WILLIAMSON, Ph.D. (Giessen), D.C.L., LL.D., F.R.S. B. 1824. Educated at Paris, Heidelberg, and Giessen. Emeritus Prof. Chemistry Univ. Coll. Lond. 1849-87. Pres. Chem. Soc. 1869-71.

the Society, and his colleague, Professor Redwood, acted as business-man, the Chemical Society had not developed in the direction of publication. They then had not a fair share of the contributions at first hands, but they always enjoyed the elaborate blackboard demonstrations given to them by Hofmann; and when the papers were short, it was their custom to fill in the evening with musical suppers, of which he had many happy recollections.

Sir Frederick Abel recalled that as Treasurer of the Society he had arranged with Dumas for the first Faraday lecture, and while Treasurer the first volume of the *Journal of the Chemical Society* was brought out. During the first year of his presidency the Research Fund, which had been inaugurated in a modest way by Thomas Hyde Hills, was supplemented by a magnificent donation by Dr. Longstaffe.

Dr. Williamson then replied, but his remarks were only audible to those beside him. He was understood to refer to the work done at the Royal College of Science and the influence which Hofmann had had upon chemistry in England.

Dr. Gladstone also replied, saying that, although much was said about the chemists of the past generations, he was



J. H. GLADSTONE, Ph.D., D.Sc., LL.D., F.R.S. B. 1827. Educated at Univ. Coll. Lond. and Giessen Univ. Prof. Chem. Royal Inst. 1874-77. Pres. Chem. Soc. 1877-79.

convinced that coming into the Chemical Society were many who were hudding philosophers, whose faces he knew, but could not label.

"THE FOREIGN MEMBERS OF THE SOCIETY."

Sir William Crookes gave this toast, and

Professor Ostwald, in reply, said: I thank you, Mr. President, my Lords and gentlemen, for the great honour you have done me in associating my name with this toast, but I must ask you to allow me to answer it in my own language. Professor Ostwald then spoke in German, referring to the brotherhood of science, and stating that amidst such international questions as the trouble about Fashoda that brotherhood is not affected, and that there is no boundary to science either in its progression or the nationality of its adherents.

"THE LEARNED SOCIETIES."

Lord Reay proposed this toast, and, referring to Professor Ostwald's remarks, said that whatever might happen on the banks of the Nile or elsewhere, the learned Societies of this great empire would always entertain cordial relations with the learned men in all foreign countries.

Lord Lister first replied, and was followed by

Professor Michael Foster, who said he had no right to speak. He was yet unborn. (Laughter.) He supposed that it was as President of the British Association that his name was



WILHELM OSTWALD, Ph.D., Prof. Chem. Leipzig.

coupled with the toast, but it was only the other day that he was conceived, and it was against all natural laws that he should be fit to speak. As President of the British Association, he did not know what lions were in his path—true lions or false lions. (Laughter.)

"THE GUESTS."

Dr. T. E. Thorpe proposed this toast. He said he had just returned from the Continent, where he had met many of the Society's honorary members, and old Bunsen charged him to say how much he appreciated the work of the Six. The grand old man has learned to grow old gracefully. He hears his 88 years well. A little deaf, perhaps, and he complains that his eyesight is not so good as it used to be.

The toast having been honoured, Mr. Haldane replied in that eloquent style which has secured for him a House of Commons reputation as an orator; then Dr. Böttinger (member of the Prussian Parliament) spoke, in perfect English, thanking the Society for the honour done to him, which was not needed to assure him that science has no bounds nor boundaries (as Professor Ostwald had remarked), but he especially appreciated the compliment which the Society had paid to him personally, and industrial chemistry particularly, in making him a guest at so memorable an event. Allow me, continued Dr. Böttinger, to conclude as we do in Germany—namely, to propose the health of your President, Professor Dewar; and, Professor Dewar having replied in a sentence, the gathering broke up at 11.30.

Legal Reports.

The Irish Pharmacy Act.

APPRENTICES TO COMPANIES.

IN the Queen's Bench Division of the High Court, Dublin, on November 11 (the Lord Chief Baron, Mr. Justice O'Brien, and Mr. Justice Andrews), judgment was given in the case of *William Boulton Conyngham v. the Council of the Pharmaceutical Society of Ireland*, which had been argued on former days. The applicant, Mr. Conyngham, sought a *mandamus* to compel the Council to admit him to their Licence examination, which they had declined to do, on the ground that he had served part of a term of four years' apprenticeship to a limited company.

Counsel for the applicant, Messrs. Ronan, Q.C., Matheson, Q.C., and Blood (instructed by Messrs. A. & J. Robinson); for the Council of the Society, Mr. John Gordon, Q.C., and Mr. Joseph Day (instructed by Messrs. Casey & Clay).

The Lord Chief Baron, in giving judgment, said the examination was prescribed by the 21st section of the Pharmacy Act (Ireland), 1875, for "all persons desirous of being registered as pharmaceutical chemists" under that Act. The Council in reply to the application said that Section 16 of the same Act empowered them, subject to its provisions, to make regulations with respect to the examination; and that Section 17 directed that every regulation made under it should be of no force or effect until approved of by the Lord-Lieutenant and Privy Council, and until it had been laid before both Houses of Parliament for a prescribed time, and that then it should be of like force and effect as if it had been enacted in the Act. The defendants then relied on a regulation sanctioned by the Lord-Lieutenant and Privy Council on November 17, 1887, Clause 3 of which enacted that candidates for the licence should be required to produce a statutory declaration, signed by a pharmaceutical chemist, stating that the candidate had served a *bona-fide* engagement for a term of four years, or of two or more terms amounting to four years, "as apprentice or assistant in the sole employment of such pharmaceutical chemist or of a firm of legally-qualified pharmaceutical chemists of which the aforesaid pharmaceutical chemist was a member." It appeared from the applicant's declaration that one of the terms which made up his four years had been served with an incorporated company registered under the Act of 1867, the articles of which provided that no person could be a member of it who was not a legally-qualified pharmaceutical chemist. The contention of the Council was that that company was not a "firm of legally-qualified pharmaceutical chemists" within the meaning of the regulation. The applicant's answer to that was that the regulation was not authorised by Section 16 of the Act of 1875; but that, if it were, the company in question was a legally-qualified firm within its meaning. In answer to the allegation that the regulation was *ultra vires*, the Council contended that it was not competent to the Court to inquire whether it was or not; and that even if it had been originally *ultra vires*, it had been recognised and validated by Section 10 of the Pharmacy (Ireland) Amendment Act of 1890. The Court had consequently to determine four questions—viz.: (1) Were they at liberty to consider whether the regulation was *ultra vires* or not? (2) If they were, was it *ultra vires* when made? (3) If *ultra vires* when made, was it validated by the Act of 1890? (4) If it was so validated, was the company in question within its meaning?

Of these questions by far the most important was the first, having regard to the wide application which the present decision of the Court must necessarily have in connection with the numerous Acts authorising the making of rules and regulations. The words of Section 17 of the Act of 1875 were that all "such" regulations when so approved should have a specified effect. To what did the word "such" refer? The defendants contended that it meant regulations purporting to have been made under the authority of the Act. Was the Court to introduce the word "purporting"? It appeared to him to be quite clear that they could not do so. It had been contended, however, that they were bound by the decision of the House of Lords in the case of the *Institute of Patents v. Lockwood*. The question

in that case arose on the construction of a section of the Patents and Trade-marks Act of 1888, which had reference to the registration of patent-agents, and gave the Board of Trade power to make regulations for giving effect. The House of Lords held that it was not competent to them to question a regulation that was made in that case; and it had been argued that that decision applied to the section under consideration here, and that it laid down a general rule of law for the guidance of all bodies on whom the power was conferred of making regulations that were to acquire statutory effect. An analysis of the case, however, satisfied him that no such general rule was laid down. His Lordship quoted from the judgments of the Lords in the case cited, and proceeded to say that in the present case the power given by Section 16 to make regulations was limited to certain specific subject-matters. In the case before the House of Lords there was no such limitation with respect to the subject-matter of the regulations; but in the present case, where there was a limited subject-matter to which the rules were alone to apply, the Court had to consider, antecedently to the question whether the regulation was to be read as being in the Act, the question whether it answered the description of being a rule within the power, or, in other words, whether it extended beyond the subject-matter of the power. He was of opinion that it was competent to the Court to see—and that they were bound to determine—whether the regulation in question was *ultra vires*. This brought him to the second question, on which he thought no doubt could be entertained. Section 16 said that the Council of the Society might, subject to the provisions of the Act, make regulations with respect to the examination of persons "desirous of being registered as pharmaceutical chemists under the Act." Section 21 enacted that all persons "desirous of being registered as pharmaceutical chemists under the Act may at any such examination present themselves for examination." Under that power the Council could not cut down the generality of the words "shall be desirous of being registered as pharmaceutical chemists," and limit them to those who had served a four years' apprenticeship. The regulation, in his opinion, was not only *ultra vires* in respect of its subject-matter, as to which the power to make such a regulation did not exist, but it was repugnant to the Act itself. The third question was as to the effect upon the regulation of the Act of 1890. This question had not been as fully argued as might have been desirable, and seemed to him to be one of no small difficulty. Indeed, in his opinion, it was by far the most difficult question in the case, but it would not be fair to the Council of the Society for him to refuse to express his opinion upon it. Section 10 of the Amendment Act of 1890 enacted that "every person who shall have served an apprenticeship of four years to a registered chemist and druggist, or a registered druggist not being a pharmaceutical chemist, and who in addition shall have served an assistantship of two years to either a pharmaceutical chemist or a licentiate of the Apothecaries' Hall, shall be entitled to present himself for examination under the principal Act as a pharmaceutical chemist, and shall be entitled on passing his examination to be registered as a pharmaceutical chemist." He did not entertain any doubt that although that section was couched in enabling words, it might, as regarded the particular class that were brought within its provisions, have a disabling effect, provided the state of the law at the time the Act of 1890 was passed was—as he now held it to be—that this regulation was invalid under the Act of 1875. He looked on it now as certain that if a person who had served an apprenticeship to a registered chemist and druggist, but who had not served two years to a pharmaceutical chemist, applied to be admitted to examination, the Court would be obliged to refuse his application on the ground that by the express provision of that 10th section he was not entitled to be examined unless he had served two years with a pharmaceutical chemist. But no doubt the purview of that section was expressly limited to the class mentioned in it, and hence arose in his mind the very great difficulty of the case. But he also took it for certain that having regard to the words of the section they must assume that there was present to the mind of the Legislature, not only the actual law in reference to the matter upon which they were legislating, but also the actual Privy Council Order which had been made by the tribunal to which they had delegated the power of making rules in

reference to this specific subject-matter; and he was unable to deal with the question otherwise than he would have dealt with it had the Privy Council Order been recited in the preamble of the statute. So that, in his opinion, the Legislature not only recognised as binding the Order in Council, but legislated upon the basis of that Order in such a way that the intent of the Legislature could not have effect unless the Order was valid. And the conclusion at which he had arrived, although with doubt, knowing that all his brethren did not agree with him, was that the effect of the section was to make this regulation valid.

If, then, the regulation had become binding, was this incorporated company a "firm of legally-qualified pharmaceutical chemists"? Now, on this point, which would finally decide the matter, it was pleasant to be able to get out of the region of doubt and difficulty to the firm basis of certainty. He entertained no doubt in the world that this incorporated company was a firm within the meaning of the regulation, and he would go farther, and say that it more perfectly answered the description than would an unincorporated company. It was an incorporated company of legally-qualified pharmaceutical chemists. No person other than such a chemist could, according to the present constitution of the company, be a member of it. True, its articles of association might be altered, and when they should be so altered that a person not a pharmaceutical chemist could be a member of the company another question would arise, and he would loyally follow the previous decision of the Court. But at present every member of the company must be a legally-qualified pharmaceutical chemist; and therefore the question was reduced to this—Must the word "firm" in the regulation be limited to unincorporated companies? Now, this regulation was made, not by persons to whom legal knowledge could be attributed, but by a council of traders, and, as the Master of the Rolls of England, in his book on partnership, showed, merchants and lawyers had different notions with respect to the nature of a "firm." Commercial men and accountants were apt to look on a firm in the light in which lawyers looked on an incorporated body—namely, as a body distinct from the members composing it, and having rights and obligations distinct from each of its members. This was borne out by the way in which partnership books and accounts were kept, the partners being never made debtors or creditors to each other, but always to the firm. So that there was, in the mercantile view, an entity wholly separate and different from its members. An incorporated company more nearly represented that ideal than did an ordinary partnership, and he saw no reason for excluding it from, but many for including it within, the term "firm," which was large enough to embrace it. The object and intent of the regulation was that the candidate should have undergone a course of training under pharmaceutical chemists; and that object was satisfied whether the persons whom he served were or were not incorporated. On the whole his (the Chief Baron's) opinion very clearly was that the conditional order for the writ of *mandamus* must be made absolute.

Mr. Justice O'Brien said that from the beginning he entertained no doubt whatever as to the last proposition discussed by the Lord Chief Baron, and that not merely the ordinary use of language, but the strict application of the technical rules of law admitted of the facts that had been relied on in this case making it a case of compliance with the regulation on the part of the applicant. He did not attach the same meaning—even having regard to the more extended and loose application of the word—to the word "firm" as the Lord Chief Baron, who seemed to think that a company was something distinct from the individuals that composed it. It appeared to him (Mr. Justice O'Brien) that the word "firm" had the same meaning in the regulation as it had in ordinary language—a trade carried on by several persons; and that it was used not to describe some separate entity, but by way of distinction from the preceding part of the regulation, in which the words, "sole employment of such pharmaceutical chemist" were used; and that a "firm of pharmaceutical chemists" meant exactly the same thing as several pharmaceutical chemists. And it occurred to him that not only had the applicant complied with the regulation by serving an apprenticeship and acting as assistant to a company that consisted of several pharmaceutical chemists, but

that he would have complied with the earlier part of it if he had been apprentice or assistant to one pharmaceutical chemist. He had great difficulty in assenting to a proposition which had been put forward during the argument as an objection to that conclusion—a proposition quoted from one of the learned Judges before whom a former case was heard, in which the question was whether an incorporated or registered company was within the Act of Parliament which imposed penalties for the unauthorised sale of chemical substances. That was not the question here at all. It was said that the company was the only entity, and that the entities of Mr. Hayes and Mr. Conyngham and the other members of this firm were lost entirely. It seemed an extremely curious use of technical law to say that because a company as such could not be made liable to a penalty they could not contain in themselves the elements for affording instruction to an apprentice or assistant so as to qualify him under this Act of Parliament. In other words, instead of the preference that one of his colleagues expressed for flesh and blood as distinguished from an entity, the effect of the proposition to which he referred was to deprive persons of flesh and blood, if it were to be held that by reason of their becoming a registered company they did not carry into that registration and new constitution the very same qualities they possessed already as pharmaceutical chemists, of being able to give instruction under this Act of Parliament. The other questions in the case were of very great and wide importance. Of course the most important one was whether the decision of the House of Lords governed this case. He was of opinion that it did not. The decision of the House of Lords was pronounced upon an Act of Parliament the terms and object of which were almost exactly similar to the present one. The Pharmacy Act evidently arose out of, and was intended to follow, the provisions for the registration of a higher branch—the profession of physicians—the intention being to have a similar register, for the safety of the community, provided for pharmaceutical chemists. That was the direct and immediate object of that Act of Parliament. Accordingly, when the Act of 1875 was passed, provision was made for the constitution of that register, and there was no other object whatever apparent on the face of the statute. By the later Act a register was provided for the chemists and druggists, That was precisely the same object as in the case of Lockwood and the Civil Engineers. The Acts of 1803 and 1805 were merely confined to the institution of a register, the appearance of any name on which would be a guarantee of that person's qualification. In that respect the two Acts were precisely the same; they were almost exactly the same in other respects; and he rather thought that the Chief Baron's view of a distinction between the two was not entirely maintainable on a careful scrutiny of their terms. The rules when made were to be of like force and effect as the Act of Parliament. Those were the words of the Patent Act, and the rule-making body under the Pharmacy Act was one of certainly not less authority than the Board of Trade—namely, the Privy Council and the Lord-Lieutenant of Ireland. It was quite true that that Act directed certain subjects of examination and the other clauses of the section related to fees and the election of members; but it was quite as single and as bald in all other respects as the Act relating to the Engineers. And, lest the separate provisions might in any way miscarry, there was the general provision (8) at the end "for all such matters as might be necessary for the due execution of the Act." That seemed to him to be precisely the same kind of provision, and almost exactly in the same words, as that in the Act relating to patents. He did not see any substantial difference between the terms of the powers in the two cases. After a criticism of the House of Lords cases his Lordship proceeded to say that it was quite certain to his mind that the rule requiring a certificate of apprenticeship or of having acted as assistant for four years to a pharmaceutical chemist or firm of pharmaceutical chemists was entirely in violation of the authority given by the Act of Parliament; it was a skilfully and carefully planned departure from that Act, because no doubt it was intended to bring within the net of this newly-constituted body of pharmaceutical chemists the whole trade in this country connected with the sale of chemical substances. That might be a right and necessary object. He said nothing about that. A great danger to the health and safety of the community might be apprehended from the admission

of persons upon the register without any previous preparation whatever, or any means of determining whether they possessed that art and dexterity in the manipulation of those chemical substances which, he believed, this Society of pharmaceutical chemists found to be necessary, independent of any oral examination whatever. Possibly they came to the conclusion, whatever their interest was, that it was a necessity for the public. They then passed this rule requiring a certificate of apprenticeship. Where in the world was there any authority for such a rule as that to be found in the Act of Parliament? It prescribed certain subjects in which they were to hold examinations. The primary object of the Act was to make a register. They could not exceed that. He would have no doubt whatever about holding this rule to be *ultra vires*; but he had to go further than that. It appeared to him that this was not a case of *intra* or *ultra vires* at all. Were these rules made in professed pursuance of the Act? Were they made in professed pursuance of making a register? Were they made to carry out examinations or in respect of fees? They were not made in pursuance of any such objects. The rules were made upon a wholly different matter—upon a matter as unauthorised as if they had made a rule that whoever presented himself at the pharmaceutical chemists' examination should be within the age of forty years. That would be far less a violation of their authority than the rule they had made, which was for the constitution of a status reaching back for a period of not less than four years, and which, in his opinion, was outside the Act of Parliament altogether. How, therefore, could it be contended that the House of Lords decision in Lockwood's case, which related to the exercise of a power to make rules for an expressly limited object, and which were confined to that object, could apply to a case in which the regulation was made, not for the purpose of carrying out the provisions of the Act in reference to a register at all, but for the establishment of an antecedent qualification beginning before the Act passed? Now he came to the last question, which was of great importance—namely, the effect of the section of the Act of 1890 upon the subject they had to deal with. As to this he adhered to the opinion he formed on the occasion of a former argument—namely, that the skilful hands who were engaged in the preparation of that Act of 1890 knew the infirmity that attached to the regulation made under the earlier Act, and that the effect of the 10th and 11th sections of that Act of 1890 was to validate the rule made under the Act of 1875, whatever its infirmity was. The 11th section enacted that "the provisions of the principal Act with respect to the examinations therein mentioned shall extend and apply to the examinations by this Act authorised, except so far as such provisions are altered by or are inconsistent with the provisions of this Act." The Legislature in enacting that section must have had the principal Act under their consideration, and certainly it might reasonably be assumed that they had also under their consideration the rules made under it.

Mr. Justice Andrews said, if the question had to be determined upon a consideration of the Act of 1875 only, he would be quite prepared to hold that the regulation was *ultra vires*. The regulation made under Section 16 was not made subject to the provisions of Section 21, but was absolutely at variance with it, because it denied the right to present for examination without the apprenticeship service; and the Court had no authority to read the word "purporting" into Section 17, which said that regulations made under the authority of the Act should be of no force and effect until approved of by the Lord-Lieutenant and Privy Council. In his opinion the present case was unaffected by Lockwood's case. If it was the intention of the Legislature to validate the regulation by Section 10 of the Act of 1890, a more embarrassing and objectionable way of doing so could hardly be conceived. The question could scarcely be said to have been more than touched upon in the argument, and no authority was cited upon it; and he thought it desirable, under the circumstances, not to offer a judicial opinion upon it when, according to the view he took of the construction of the regulation, it was not necessary for the decision of the case that he should do so. Assuming—but not deciding—that the regulation was valid, he was of opinion that the incorporation of the company did not deprive the individual members of it of their character of legally-qualified phar-

maceutical chemists. Every "firm" was not an incorporated company, but it did not follow from that that an incorporated company did not comprise a firm; and it appeared to him to be not only a refinement, but an unnecessary and fallacious refinement, to say that the company in question did not come within the description of a legally-qualified firm contained in the regulation because they were, in addition, members of an incorporated company. The result, according to his opinion, was that if the regulation in question was invalid the applicant was not bound by it. If it was valid, his case came within it, so that the *mandamus* ought to go.

The Lord Chief Baron: The costs must abide the result of the proceedings.

After some discussion between counsel as to whether the writ was to be issued or not, an adjournment of a week was granted, in order to afford counsel for the defendants, the Council of the Society, an opportunity of considering what course they would pursue.

Evading the Medicine-stamp Act.

AT North London Police Court, on November 11, George William Nicoll, Frederick Rowe, and Harry Mobsby were charged on remand with selling medicines liable to stamp-duty and with other offences under the Revenue Acts. Mr. Hanson, for the defence, suggested that the prosecution be satisfied with the conviction of Nicoll as the principal, the other prisoners being merely employes, which course the Magistrate ultimately adopted. The evidence given in our last week's report of the case was repeated, and it was further stated that an analysis of some of the mixtures sold showed that they contained methylated spirit. Mr. H. Davis, a Government analyst, said the mixtures did not contain spirit of wine, but Mr. Hanson said the prisoner Nicoll never purchased methylated spirit: he always used spirit of wine. For the prosecution it was stated that Nicoll had been known for five years under a number of names and at eight different addresses, and on one occasion he was fined 10*s.* for selling medicines without stamps. Mr. Hanson read a declaration which prisoner had made stating that he was under the impression that he was not liable if he supplied the authorities with the names of the drugs used in the medicines. In convicting the prisoner Mr. Rose said he had carried on a lucrative business in violation of three Revenue Acts. He inflicted penalties on Nicoll amounting to 11*s.*, with 5*s.* costs, and discharged Rowe and Mobsby.

Trusting the Housekeeper.

AT Downham Market County Court, on November 4, Mr. I. C. Holme, chemist, Downham Market, sued Mr. Samuel Brown for 1*l.* 17*s.* 4*d.* Jesse Griffin, plaintiff's assistant, deposed that defendant's late housekeeper had at various times purchased goods from defendant for which she paid ready money. She afterwards asked if Mr. Brown could have an account opened, and goods to the amount claimed were subsequently entered in the books. Defendant stated that he always gave the housekeeper money to pay for the goods when purchased, and had not authorised her to have them booked. Judgment for the defendant was given.

Rival Mineral-water Manufacturers.

THE adjourned hearing of the case against a firm of mineral-water manufacturers and their foreman, in Exeter, for willfully damaging the goods of rival mineral-water firms, particulars of which were given in our issue of November 5, page 756, was resumed at Wonford Petty Sessions on November 15. Mr. Duke, for the prosecution, now stated that, in view of the conflicting character of the evidence given by the witnesses whom he had called, and the difficulty of sustaining a criminal case against the defendants, he had advised the prosecution to withdraw the charge. The summonses were allowed to be withdrawn, the Chairman remarking that the Magistrates took that course with some reluctance. It was stated in court that there would have been eighty witnesses for the defence.

Sale of Food and Drugs Act.

GROUND GINGER.

AT Cranbrook (Kent), on November 10, Mr. E. Rumens, drysalter, was summoned for selling ground ginger alleged to have been adulterated with exhausted ginger. The case had been adjourned from a previous court to allow of expert evidence being called by both sides.

For the prosecution, Dr. Adams, who stated that he was a Past-President of the Society of Public Analysts, was first called. He said the sample he analysed contained 50 per cent. of exhausted ginger. It was the worst case of the kind he had met. Under cross-examination, Dr. Adams stated that he had satisfied himself of the character of the ginger by ascertaining first the total ash, then the soluble ash, and lastly by the aqueous extract. There was no fixed standard for ginger, but he considered that the soluble ash should be somewhere between 1.9 and 3 per cent. Anything under 1.9 indicated exhaustion. The sample was deficient, but he found no other substance than ginger.

Dr. Bernard Dyer, D.Sc., President of the Society of Public Analysts, said he had analysed a sample of the ginger in question, and he corroborated the evidence of Dr. Adams. He had no hesitation in saying that the sample was largely adulterated. The standard had been lowered since the importation of Japanese ginger, but the sample produced was far below even that. The result of his analysis was as follows:—Soluble ash, .8; matter soluble in water, between 4 and 5 per cent.; fixed ethereal extract, 31; alcoholic extract after ether, 14. He had never known Japanese ginger so low as the present sample.

For the defence, Mr. Edwin G. Clayton, consulting chemist, London, and a former public analyst, was called. He had analysed a sample of the ginger, together with samples of high-class gingers for comparison, and gave it as his opinion that this was not spent ginger, and was absolutely pure.

Mr. Hy. Tessier, spice-manager to Messrs. Geo. Harker & Co., of London, the wholesale vendors of the ginger, deposed that the article was supplied just as received from the market, where it was bought as pure ginger. The price of ginger varied from 13s. to 120s.; this was sold at 39s. It was not a high-class ginger, but a good middling article. It was washed ginger, and was absolutely pure as far as ginger could be.

The Bench considered the case fully proved, and imposed a fine of 5*l.* and costs.

SWEET NITRE.

MR. A. W. JAMES, chemist, Swansea, was on November 8 fined 40*s.* and costs for selling sweet spirit of nitre which was deficient in nitrous ether.

The Valentine Meat-preparations.

VALENTINE MEAT-JUICE COMPANY *v.* VALENTINE EXTRACT COMPANY.—The motion for interim injunction to restrain the defendants from trading under a name calculated to mislead the public into the belief that their goods are those of the plaintiff company was mentioned before Mr. Justice Stirling on the 11th inst. The case was not yet ready for trial, and his Lordship allowed the motion to be held over for three weeks.

County Court Cases.

AN ADVERTISING DISPUTE.

AT Lincoln County Court, on November 14, the United Advertising Company, of Sheffield, claimed 2*l.* 12*s.* from Mr. Richard Wark, chemist, Lincoln, as the price of an advertisement in a cabinet fixed in a public place. The plaintiffs obtained advertisements for the cabinet from certain tradesmen on their signing a contract stating that if through any cause the cabinet could not be fixed at the Saracen's Head, they would agree to whatever other place was chosen by the plaintiffs. Mr. Wark said he objected strongly to that clause, but the plaintiffs told him that the owner of the

Saracen's Head had given his consent, and that so far as the cabinet's position at the Saracen's Head was concerned the matter was absolutely settled. It was only after that that he agreed to sign. Judgment was given for the defendant, with costs.

The Medical Act, 1858.

THE LETTERS "A.M.S."

IN the High Court of Justiciary, Edinburgh, on November 15, an appeal was heard, at the instance of Abraham S. Eastburn, 13 Cambridge Street, Glasgow, against a decision in the Glasgow Sheriff Court by Sheriff Boyd in July last. Eastburn was charged, at the instance of James Robertson, solicitor, 48 George Square, Edinburgh, Registrar and Secretary of the Scottish Branch Council of the General Council of Medical Education and Registration in the United Kingdom, and by James Neil Hart, writer, Glasgow, Procurator-Fiscal of the Court, for calling himself physician and surgeon, professor, American eclectic medical specialist, and using the letters, titles, additions, or descriptions "A.M.S." after his name, whereby he was guilty of an offence within the meaning of the Medical Act, 1858, Section 40 thereof. Sheriff Boyd convicted him of wilfully and falsely taking and using the title or addition of "A.M.S.," implying that he was recognised by law as a practitioner in medicine, in contravention of Section 40 of the Medical Act, 1858, and fined him 20*l.*, with 3*l.* 3*s.* of expenses.

Mr. Salveson appeared for the appellant, and argued that the conviction was wrong on several technical grounds, and especially on the ground that the letters "A.M.S." did not imply that he had a qualification.

Lord Trayner: Is the letter "M." right?

Mr. Salveson: Yes, my lord, it means "American Medical Specialist." The letters are intended by Mr. Eastburn to mean what I say, and they do not imply registration at all. The use of letters such as "A.M.S." or "X.Y.Z.," which were not the symbol of a degree of a university, implied the contrary, and showed that he had not got one of the recognised degrees.

Lord Moncreiff said they would have to consider if it was not meant to protect ignorant persons who did not know the titles. If he had the letters "A.M.S." after his name, they might think they had something to do with medicine or surgery.

Mr. Salveson said a man must have some kind of knowledge of the recognised titles, otherwise he did not see how a title by itself could imply that the person using it was registered under the Medical Act unless it was one of the well-known titles.

Mr. Clyde, for the respondent, argued that it was not enough to contend that "A.M.S." was not one of the titles that could be registered under the Medical Act. What the Act struck at was the use of anything which implied that he possessed some of the qualifications there named, or that he was recognised by law as a practitioner.

After hearing the arguments their Lordships on Wednesday quash the conviction on the ground of flaws in the indictment, and ordering the repayment of the fine of 20*l.* and 3*l.* 3*s.* costs, and also gave the appellant his own costs in the action.

The Saccharin Corporation *v.* the Chemical and Drugs Company (Limited).

IN the Court of Appeal, on Wednesday, before the Master of the Rolls and Lords Justices Chitty and Vaughan Williams, the case of the Saccharin Corporation (Limited) *v.* the Chemical and Drugs Company (Limited) was heard on appeal by the defendants from an order of Mr. Justice North. Mr. Swinfen Eady, Q.C., for the appellants, said the action was brought for an injunction to restrain the infringement of patents, and the defendants had asked that the question whether they had infringed the patents might be decided before determining the other issues raised. Mr. Justice North had intimated his intention of trying the question of infringement before dealing with the point as to validity, but he had declined to make any order directing the rest of the action to stand over. The plaintiffs said

the defendants for infringement of twelve patents. The saccharin they sold was not manufactured by the defendants, but was imported by them, the bulk coming from M. Cerckel, of Paris, who was the manufacturer. They had asked for particulars of the alleged infringement, and the plaintiffs replied that it was in respect of the whole of the twelve patents. This raised a tremendous issue. They (the defendants) did not know the particular process by which the saccharin imported by them was manufactured, and they were therefore unable to determine whether it was by one of the patents sued upon or by a secret process.

The Master of the Rolls: Have you disputed the validity of the plaintiffs' patents?

Mr. Eady: At present we have not put in a defence, as we do not know the case we have to meet. We do not know on which of the patents the plaintiffs rely. All the plaintiffs say is that they are the holders of twelve patents, which comprise the whole of the processes by which saccharin can be manufactured, and the defendants must therefore have infringed one or more of them. If that is so, we shall have to go into every one of these patents at enormous cost. Up to the present time we really do not know what patent it is we have infringed.

The Master of the Rolls: It seems very strange to ask us to give directions to the learned Judge as to the way in which he should try the action.

Mr. Eady said the plaintiffs' allegation might be met by the reply that one or more of the twelve patents was invalid; but they went further than that, and denied that the plaintiffs' patents comprised all the known methods of manufacturing saccharin. When the case came to trial, the processes by which the saccharin imported by the defendants was manufactured would be shown, and the plaintiffs would then have to prove that it was made in accordance with one of their patents. When they had done this, then the question of validity would arise.

Lord Justice Chitty: I do not see how you can compel M. Cerckel to disclose the process by which he produces his saccharin.

Mr. Eady: Are we really to go to trial upon a general question involving really the validity of every one of the twelve patents?

The Master of the Rolls: Mr. Justice North says he will probably try the question of infringement first.

Mr. Eady: Yes; but we shall have to be prepared to meet the whole case.

The Master of the Rolls, without calling upon Mr. Moulton, Q.C., to reply, said no doubt there was a difficulty with the conduct of the action and that it would affect both parties; but it was not for them to dictate to the Judge as to the course to be pursued. It would be for the Judge to say what would be the most expedient method of trying the case when it came before him. The motion would be dismissed, with costs.

The Other Saccharin Action.

SACCHARIN CORPORATION (LIMITED) v. FAHLBERG AND OTHERS.—In this action, the defendant Dr. Fahlberg on the 12th inst. applied for and obtained leave from Mr. Justice Stirling, in the Chancery Division, to amend his defence by raising a counterclaim the result of which will enable him to obtain "discovery and interrogatories" from the company who are co-defendants with him in the action.

Bankruptcies and Failures.

Re ASHBY VARLEY SAUNDERS, Cleckheaton, Chemical-works Manager.

AT Bradford Bankruptcy Court, on November 9, this debtor appeared for his public examination. Liabilities, 534*l.*; assets, *nil*. Debtor stated that he was formerly a member of the firm of Saunders & Saunders, chemical-manufacturers, Cleckheaton, and when that firm was formed into a limited company he became manager at a salary of 150*l.* a year. That was increased to 200*l.* He had lived at the rate of double that amount, and had borrowed money

from friends. He admitted he had squandered his money. The Registrar, in closing the examination, remarked that it was about as disgraceful a state of affairs as it was possible to imagine. The examination was closed.

Re JOHN JOSEPH LAWS, 14 Greyhound Lane, Streatham Common, Chemist and Druggist.

In this case the liabilities are stated to be 256*l.* 2*s.* 5*d.*, and the assets 163*l.* 7*s.* 11*d.* The following are creditors:—

	£	s.	d.
Andrews, E., Leigh-Sea	29	0	0
Cow, P. B., London	73	0	0
Corbyn, Stacey & Co., London	10	0	0
Gordon, Isaac, Birmingham	25	0	0
Horton, F., Ongar	31	0	0
London Advance and Discount Corporation, London	30	0	0
Preferential creditors	27	10	0

Gazette.

PARTNERSHIPS DISSOLVED.

Hill, J. R., and Scott, S. J., under the style of Hill & Scott, Chapel-town, near Sheffield, surgeons and apothecaries.

Parry-Jones, M., and Corkery, T., under the style of Parry-Jones & Corkery, Alfreton and Pinxton, physicians and surgeons.

Deeds of Arrangement.

Bailey, Ernest Arthur, trading as "Thomas Bailey," Central Chambers, Broadgate, and lodging at 2 King Richard Street, Coventry, wholesale druggist. Trustee, Charles W. Cotterell, 57 Colmore Row, Birmingham, chartered accountant. Dated, November 1; filed, November 8. Liabilities unsecured, 411*l.* 10*s.* 7*d.*; estimated net assets, 89*l.* 4*s.* 4*d.* The following are scheduled as creditors:—

	£	s.	d.
Hafner, J., Birmingham	99	0	0
Light, —, Hertford	10	0	0
Midland Daily Telegraph, Coventry	11	0	0
Nottingham Daily Express, Nottingham	18	0	0
Rugby Advertiser (Limited), Rugby	15	0	0
Staffordshire Sentinel, Hanley	14	0	0
Tamworth Herald Company (Limited), Tamworth	16	0	0
Tresise, J. N., Burton	73	0	0
Wyles (Limited), Coventry	26	0	0

Tutt, Herbert James, and Sophia Tutt (his wife), 48 Station Road, Worthing, mineral-water manufacturers. Trustee, Frederick G. Clark, 56 Ship-Street, Brighton, chartered accountant. Dated, November 8; filed, November 12. Secured creditors, 540*l.*; liabilities unsecured, 431*l.* 0*s.* 11*d.*; estimated net assets, 360*l.* The following are scheduled as creditors:—

	£	s.	d.
Bourne, J., & Son, London	14	0	0
Johnson, C., & Co., London	30	0	0
Kenward, E., Sompting	11	0	0
Linfield, F. C., Worthing	29	0	0
Potter, Bailey & Co., Worthing	24	0	0
Prince, W., Worthing	17	0	0
Rylands Gas and Engineering Company (Limited), Barnsley	227	0	0
Stevenson & Howell (Limited), London	14	0	0
Wilson, Miss F., Hove	10	0	0

OPIUM-SMUGGLING still goes on in India, notwithstanding seizures and punishments. A man in the Central Provinces sent the drug by post to an address in Shoranore, on the Cochin border, and registered the contents as "Books only"

SIR EDWARD FRANKLAND, K.C.B., has been re-appointed foreign secretary of the Royal Society, and Professor James Dewar and Dr. W. J. Russell members of Council as representing chemistry. Owing to the retirement of Sir John Evans from the trusteeship of the Society, Mr. Alfred B. Kemp has been nominated to succeed him, but there seems to be some dissatisfaction amongst the Fellows of the Society in respect of this nomination.

More Mayors and Aldermen.

Alderman James Floyd, who has been elected Mayor of Bury St. Edmunds, served in the same capacity in 1880. He retired from active participation in the affairs of the



J. FLOYD.

firm of J. Floyd & Co., chemists and wholesale druggists, Bury St. Edmunds, about two years ago. He has devoted much time during his career to philanthropic and public work.

Alderman John Coles Coles, the newly-elected Mayor of Chippenham, served a previous mayoralty in 1891. He is Chairman of the District Technical Education Committee,



J. C. COLES.

and his election this year is especially associated with a scheme for building new secondary and technical schools. In this work he is ably supported by his brother chemists, Councillor E. Neale and Mr. A. B. Turpin, who are both active members of this committee. Mr. Coles is a Conservative in politics.

Alderman J. Horsley, pharmaceutical chemist, has been re-elected Mayor of Hartlepool.

Mr. Andrew Thompson, chemist, Lowther Street, Carlisle, has been appointed an alderman of the borough.

Councillor John Bower, whose election as Mayor of Macclesfield was announced in last week's issue, has been unanimously elected an alderman of the borough.

Alderman Maud, J.P., chemist and druggist, on his retirement from the mayoralty of Pontefract, on November 9, was heartily thanked by the Corporation for his services both in committee and on the Council. He retired from the mayoralty, he Mayor-Elect said, with the good will of the entire Council,

and in appreciation of Alderman Maud's services he appointed him his deputy during his year of office. On the previous day Alderman Maud was publicly thanked for the manner in which he had administered justice as Chief Magistrate.

Alderman Wm. Mount, pharmaceutical chemist, Canterbury, has resigned his seat on the Aldermanic Bench of the Town Council, on the ground of ill-health. At the annual meeting of the Corporation the Mayor bore high testimony to Alderman Mount's long and honourable record of public service on the Council which had extended over a period of twenty-seven years. During that time he had held the office of Mayor three times. The resignation was received with regret.

Commercial Notes.

EXPORTATION OF "THROUGH"-GOODS.

It has long been notorious that the Board of Trade returns do not always show the true markets in foreign countries for British produce and manufactures, because the Board of Customs is not correctly informed of the final destination of exported goods by shipper and shipping-agents. In order to rectify this the Board has issued a General Order, dated November 10, appealing to exporters to correctly fill up the column of the Export-specification form headed "Final destination," as distinguished from the mere port of discharge of the ship. We question if shippers will accept this invitation to give themselves away. They may state the inland country to which the goods are consigned, but more than that may be like telling the world where their business lies.

ANGOLA TRADE.

The Belgian Vice-Consul at Massamedes, reporting on the trade of Angola, says that there is a large demand for eau de Cologne, aromatic waters, and hair-oils, the latter being chiefly purchased by negroes. Some of the ruling prices are:—Aqua de colonia, mark Estacio & Ca, Lisboa, flasks containing about 75 grammes, 300 reis wholesale (100 reis = 5½d.), 500 reis retail; large flasks 900 reis. Eau de Cologne (German brand), small six-faceted flasks containing about 30 grammes, 10,800 reis per gross at Benguela. Eau de quinine, mark Gustav Boehm, Offenbach a/m, small red flasks, wholesale 300 reis, retail 500 to 600 reis. Nutritive hair-oil, mark Gautier, Paris, 400 reis per small flask at Catumbela. Of insecticides only two brands are found at Angola—viz., Keatings powder, price 200 reis per small tin at Benguela, and Thumerlin's insect-powder, which costs 500 reis per bottle. Apollinaris-water sells at 8,000 reis per basket of 48 bottles; Sauerbrunnen is another popular brand. Ginger-ale (Rawlinson brand) costs 200 reis on the coast and 300 in the interior. The Consul is of opinion that an aerated-water factory would succeed at Benguela and Catumbela.

RETAILERS AND WHOLESALE COMBINE.

The meetings which were held simultaneously in St. Louis last month by the National Wholesale Druggists' Association, the Proprietary Association, and the National Association of Retail Druggists, have resulted practically in the fusion of these three bodies. Although they all held separate conventions, before the close of the session they had fraternised so successfully that the general expectation was expressed that the three Associations would henceforth work together in complete harmony. At the St. Louis Convention the two particular points on which all parties were agreed were the abolition of the war-tax and the establishment of a uniform-price basis for proprietary articles. With one accord they came to the conclusion that the proprietors ought to bear the burden. He must stamp his goods at his own expense, must not exceed a certain specified price, must give more discount, and must confine his sales strictly to the wholesaler, discontinuing entirely direct quantity-sales to department-stores and recognised cutters. This new development of the cutting-problem in the United States is extraordinary, especially as the promoters of the N.A.R.D. seemed to start out on a mission of slaying all who would coquet with the wholesalers and manufacturers; but better counsel appears to have prevailed.

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BEST CLEANED LINSEED	15/ cwt.	No. 2 Pure PRECIPITATED CHALK	21/ cwt.
No. 1 Finest Pure FULLER'S EARTH (Light Colour)	15/ cwt.	"WHITE EARTH" Specially prepared for Toilet purposes.	18/ cwt.
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BRITISH PHARMACOPŒIA, 1898.

Editorial Comments.

Irish Judges and the Pharmacy Act.

THE almost slavish submission of lawyers and judges to precedents is a frequent subject of irony; and doubtless it does sometimes seem to prevent the unfettered consideration of a cause. But if the Courts were to disregard the principles and conclusions which have been established by previous consideration and arguments, the result would certainly be much more inconvenient to the public. The administration of law cannot become an exact science; its glorious uncertainty will probably always remain the one most certain thing about it; but, all the same, it is desirable that we should be able to rely on the application of definite rules to cases of corresponding import. This is just what we do not get in the recent case decided under the Pharmacy Act of Ireland.

The judgment of the Irish High Court in the case of Conyngham v. Pharmaceutical Society of Ireland is such a curious reversal of the decision of the same Court in the case of Cleeland v. the Pharmaceutical Society of Ireland in January, 1896, that it is almost difficult to believe that the Judges are treating the point at issue seriously. Neither the Lord Chief Baron nor Mr. Justice Andrews was a member of the Court which heard the earlier case, so that no personal inconsistency can be alleged against them. But Mr. Justice O'Brien put his views on record in the Cleeland case, and now argues dead against them with the most perfect complacency. His also was the leading judgment in the case of the Pharmaceutical Society of Ireland v. Alexander Boyd & Co., Limited (C. & D., February 15, 1896), which formally

applied the House of Lords judgment in regard to company pharmacy to the Pharmacy Act of Ireland.

Mr. Justice O'Brien's legal position is so curious that justice can only be done to it by placing the crucial point of his decisions in parallel columns, as appended:—

The whole matter in the present case appeared to turn on the construction of the words "firm of pharmaceutical chemists." These appeared to be quite sufficient to decide the question. It was impossible, in his mind, by any strain or twist of reasoning or language, to raise any question as to the meaning of those words. They meant individual pharmaceutical chemists. They could not be taken to mean a body including pharmaceutical chemists or a company. . . . He was therefore compelled to come to the conclusion that it was impossible to assist the applicant in the present case by granting a *mandamus*.

(From Mr. Justice O'Brien's judgment in the Cleeland case. *C. & D.*, January 18, 1896.)

He did not attach the same meaning—even having regard to the more extended and loose application of the word—to the word "firm" as the Lord Chief Baron, who seemed to think that a company was something distinct from the individuals that composed it. It appeared to him (Mr. Justice O'Brien) that the word "firm" had the same meaning in the regulation as it had in ordinary language—a trade carried on by several persons . . . and it occurred to him that the applicant had complied with the regulation by serving an apprenticeship and acting as assistant to a company that consisted of several pharmaceutical chemists.

(From Mr. Justice O'Brien's judgment in the Conyngham case.—*C. & D.*, November 19, 1898.)

So far as the question of company or firm is concerned, it is impossible to distinguish between the Cleeland and the Conyngham cases. The Pharmaceutical Council refused to admit to the qualifying examination both of these gentlemen on precisely the same ground—namely, that their certificates of service were signed, not by a pharmaceutical chemist or by a firm of pharmaceutical chemists, but by the representative of an incorporated company, a being which the House of Lords has declared cannot by any means become a pharmaceutical chemist, and is therefore entirely outside the Pharmacy Act. Mr. Cleeland's employers, Messrs. Grattan & Co. (Limited), Belfast, were not all qualified chemists; the company whose certificate Mr. Conyngham produced is required by its articles of association to consist of pharmaceutical chemists only. But if the judgment of the House of Lords is of any value it applies as much to one company as to the other. "A corporation as such cannot possess a competent practical knowledge," said Lord Justice Bramwell in the English case. Likewise a corporation as such cannot instruct an apprentice. Both Mr. Cleeland and Mr. Conyngham had been taught their business by qualified persons; the Lord Chief Baron and his colleague attempt to draw distinctions in respect of the fact that in the first case not all the shareholders were qualified, while all are in Hayes, Conyngham & Robinson (Limited); but if these explanations satisfy their own minds that is all they will do.

The essential point of the decision is the refusal of the Judges to recognise in this case the distinction between a "firm" and "company"—a distinction they were ready enough to adopt when it went against pharmacists in the Boyd case. The High Court of Ireland thus declares that companies are to have both their penny and their bun, to use Mr. Glyn-Jones's metaphor. The Court is unanimous as to the invalidity of the regulation requiring four years' service as a condition precedent to the examination, and the elucidation of this point is interesting and clever. It was to a large extent anticipated in Mr. Justice O'Brien's judgment in the Cleeland case, but neither then nor now has it had any actual effect on the decision. All the Judges hold that the regulation under the 1875 Act, though approved by the Privy Council of Ireland and laid on the table of both Houses of Parliament for the stipulated period, was *ultra vires*; but

they also conclude that it was subsequently validated by a section of the amending Act of 1890, which provides evidence that the Legislature then recognised and adopted the invalid regulation. It was a roundabout way of getting there, but it arrived there all the same. Incidentally we may remark that the regulations under the British Act providing similar conditions would seem to be equally *ultra vires*, and they certainly have not been sanctioned by subsequent legislation.

This decision of the Irish High Court would be satisfactory enough if it were not in direct conflict with a judgment of unfortunately greater authority. The losers in the recent action, we presume, would ask for nothing better than to have it established that for the purposes of the Pharmacy Act a company is a firm. The House of Lords said it was not. The High Court of Ireland may disagree with the House of Lords, but unfortunately cannot overrule it. The Lord Chief Baron and Mr. Justice O'Brien seem to have satisfied themselves by some process of reasoning, which they certainly do not make clear, that they are not contravening the law in this respect as it was laid down. They accept the House of Lords judgment, and yet in going exactly contrary to it, the Lord Chief Baron congratulates himself on being "out of the region of doubt and difficulty," and "on the firm basis of certainty." Mr. Justice O'Brien, with a vague remembrance, perhaps, of his previous opinion, has the decency to manifest a little less assurance, and covers his retreat with some obscure arguments. But the Pharmaceutical Society of Ireland, which might fairly have assumed that the distinction between "firm" and "company" was at least one of the few settled things in pharmacy law, is left for the future to carry on the administration of the Act entrusted to it, with no more certainty as to its conduct than can be obtained from a study of such diametrically opposed judgments as those with which Mr. Justice O'Brien has illuminated the legal records of his country.

Signs in Prescriptions.

THE death of a patient at Tolworth Fever Hospital from an overdose of opium, due to a nurse mistaking the $\frac{1}{2}$ -drachm sign for $\frac{1}{2}$ oz., set a *Morning Leader* representative to inquire why doctors should not write quantities in plain words instead of in these strange hieroglyphics in which, as the nurse said, the ounce sign differs from that of the drachm only by "a little curl at the top." The interviewer first called on the Secretary of the Pharmaceutical Society for information. There he was told that the signs used in prescriptions were the recognised language of pharmacy all over the civilised world; that to a practised eye the signs could not be mistaken one for the other; that if there should be a passing doubt raised by bad writing it would be at once cleared up by the context of the prescription, and by the dose ordered; and he drew the moral from all this that only properly qualified dispensers should be allowed to do this kind of work. Several chemists who were also seen admitted, however, that they had occasionally to make up prescriptions the signs in which were not always quite legible and sometimes did not appear to be correct. In such cases they said they would consult with a colleague or perhaps with the writer of the prescription. One argument used in favour of the signs as against plain words was that they checked the inclination of some patients to doctor themselves.

No one can object to the Secretary of the Pharmaceutical Society improving the occasion in the interests of qualified pharmacists. And no doubt his view that the dispensing of medicine should be restricted to persons who have been specially trained for the work is the correct one. At the

same time there is much to be said, we think, in support of the suggestion that prescribers should take a little more trouble in writing out doses. That so few accidents have occurred from confusion between the drachm and ounce signs is singular testimony to the care of the average dispenser. The drachm itself is probably the oldest medicinal weight in existence. It is traced to the Greek word *drax*, which probably meant rather a pinch than a handful, which is the meaning generally given to it in dictionaries. The Arabic *dirhem* was probably associated with the Greek *drachma*; while the Egyptian unit of medicinal weight as found on the Theban papyrus, written probably in the days of Moses, seems to have been a *di-drachma*, or a double drachm, written thus:

Dr. Otto A. Wall, of St. Louis, in his interesting work "The Prescription," states that in that papyrus the divisions of the di-drachma ($\frac{1}{8}$, $\frac{1}{16}$, $\frac{1}{32}$, and $\frac{1}{64}$ respectively) were indicated as follows:



the one-sixteenth of the di-drachma being the weight most frequently prescribed because it was believed that a medicine given in that dose was peculiarly active. It was under the early Roman Emperors that the drachm was first made definitely the eighth part of an ounce. When the ounce and drachm signs were introduced, or from what they were derived, is not certain. Dr. Charles Rice traces the ounce sign to the Greek α (ξ); but he certainly does not give a satisfactory reason why the Greeks should have chosen an α to represent the ounce. He thinks it was a sort of monogram of the two central γ 's in the Greek word *ovvyla* (pronounced *ovvyla*)—an explanation far-fetched enough to satisfy the most fastidious etymologist.

Dr. Wall shows that a figure resembling our numeral 3 was used by the Egyptians to represent the half-tenet, a measure of capacity; and he assumes that this sign came to be used to represent also the half-di-drachma. This also is an ingenious but not a very probable explanation. It is impossible to avoid the belief that the 3 and the 5 must have had some common origin.

It is hardly likely that signs of such antiquity, and against which so little damage can be alleged, will be easily got rid of from our medical notation.

But if it is hopeless to look for the abandonment of these old ounce and drachm signs, we of this generation ought not to allow the French "gr." to become adopted in prescriptions alongside of our "gr." The prospective danger of confusion between the grain and the gramme is very serious indeed. Mistakes from it are already on record, and they will be multiplied indefinitely when the metric system gets a firmer foothold in this country unless physicians can be either persuaded or compelled to change their habitual carelessness in prescribing poisons.

HOW GLAUBER DISCOVERED HIS SALTS.

Professor Ferguson, in lecturing to the Andersonian Chemical Society of Glasgow the other day, told how Johann Rndolph Glauber discovered his sal-mirabile. Glauber, while on one of his many journeys, fell sick of a fever on his way to Vienna, and had to stop at a roadside village. Here his digestion failed him entirely, and he could eat nothing. The natives told him of a well whose waters they said would cure him, and he, though sceptical, set out, taking with him a large piece of bread. When he

arrived at the well he soaked a few crumbs in the water, and ate them with relish, though formerly food had nauseated him. He returned much improved and investigated the salt in the water, showing that it was not nitre, as had been supposed, for it was not fiery in nature, as he proved by adding it to burning-coal.

Ph.D.

The *Chemiker Zeitung* has recently been drawing attention to the injustice which obtains in the granting of the German degree of "doctor," particularly the facilities for obtaining it given to foreigners. A number of communications have been received in reply to the article in question approving the stand taken by the journal, and giving instances of injustice. A letter from Breslau states that in that University foreigners are favored and admitted to every faculty, although some cannot even follow the lectures given in the German language. In other cases candidates were accepted, and the *Maturum* dispensed with, because they came from a different part of Germany, and consequently were allowed the privileges granted to foreigners, so that no guarantee was forthcoming as to their fitness for the degree conferred upon them. A point brought forward in regard to the medical examinations, and in opposition to the State examination for chemists proposed by the *Chem. Zeit.*, is that the Medical examination is old-established and guarantees the social standing of the holder of the degree. Our contemporary contests this assumption, and urges the establishment of a State examination for chemists, to which only those candidates should be admitted who could show the *Maturum* of a gymnasium, or of a realgymnasium—all of which is very interesting to us Britishers, who have been told that the elementary education of the German science student is so very much superior to what obtains with us.

LIGHT WANTED.

Mr. Victor Horsley has a sublime respect for himself. His goodness has been the principal obstacle to his usefulness. "The fact was," he told the North-West London Clinical Society after he and they had dined together recently, that "he had suffered all his life from a sensitiveness—it might be hypersensitiveness—to injustice, and it always seemed to him particularly galling if he saw public injustice being committed with impunity." The injustice he refers to is that others besides registered medical men are still allowed "to apply the knowledge of science to the alleviation of disease." According to him, the Medical Act of 1858 expressly forbids this. He carefully abstains from quoting the particular section where this prohibition is to be found, but he confidently assures his hearers that it is there, and that the General Medical Council is being gradually converted to his own view. It is curious how a man of Mr. Horsley's intelligence can have acquired any such impression from the perfectly plain terms of the Medical Act. There is not a word or a sentence in it which can be construed to render unqualified medical practice penal. "But," said Mr. Horsley at the end of his speech, "we can only wait and hope that a little light will presently shine in dark places." That is what we have been waiting for for a long time, but we have almost given up hoping for it.

CAMPHORATED OIL.

We were recently asked by a correspondent what was the best method of estimating the camphor in camphorated oil. We have since come across an article in the *Analyst* for November which confirms what we then said. Messrs. Leonard and Smith read a paper before the Society of Public Analysts on the subject. The paper begins by estimating from the sp. gr. of olive oil that the B.P. lin. camp. should contain 21.45 per cent. by weight of camphor. The camphor is estimated by heating 3 to 5 grammes of the oil for

two hours at 120° C. in a flat-bottomed dish or flask. Olive oil under the same conditions suffers a gain in weight of 15 per cent., and hence this figure should be added to the loss in weight on heating the sample in order to obtain the true amount of camphor present. The results obtained by this method were found to be very satisfactory, the accuracy of the method being tested by estimating solutions containing known weights of camphor in olive oil of 9164 sp. gr. Each per cent. of camphor causes approximately a rise in the sp. gr. of about 00045, and in this way a rough idea of the amount of camphor present can be formed, but of little value if the sp. gr. of the olive oil used differs much from 9165. The same authors say that the presence of mineral oil can be usually detected by the marked bluish fluorescence of the sample, and further identified and separated from any vegetable oil which may also be present by heating for some time with alcoholic potash, diluting with water, and filtering. The mineral oil remaining on the filter is washed with water, dried, and transferred to a weighed flask by means of a little ether, which is removed subsequently by evaporation.

Literary Notes.

MR. WILLIAM MARTINDALE has brought Harvey and Davidson's "Syllabus of Materia Medica" into line with the 1898 B.P., making a tenth edition of the little book, which is published by H. K. Lewis at 1s. The "Syllabus" is virtually a dose-book for medical students, and Mr. Martindale has made the best of it by introducing metric equivalents to the doses; but we find it impossible to enthuse over the "Syllabus," which is a good cram-book, damaged in part by excessive classification.

DR. A. P. LUFF, M.D., B.Sc., F.R.C.P.—a gentleman who attained eminence in the pharmaceutical world before he went on to medicine, and who in that profession has scored many successes, among them being that he has been for some years one of the medical consultants to the Home Office, and as such has been engaged as an expert in many important medico-legal investigations—has just published a work on "Gout, its Pathology and Treatment" (Cassell & Co., 5s.), which is partly a reproduction of the Goulstonian lectures on gout, delivered by the author before the College of Physicians in 1897, but to a large extent the account of Dr. Luff's observations and experiments connected with the treatment of gout. In this section Dr. Luff gives reasons for not following blindly the treatment of gout by means of alkalies or salicylates. The action of the liver, affected as it is by medicine and diet, he seems to regard as the key to the rational treatment of the disease. We believe that Dr. Luff has retired from medico-legal practice, and will in future confine himself to consultations, making a special study of gout and rheumatism.

A NEW book by Mrs. Fred Reynolds, "An Idyll of the Dawn," has just been published by Mr. James Bowden, Henrietta Street, W.C. (3s. 6d.). It is a record of child-life, autobiographical, perhaps, and is written with much grace and not a little humour. It is rather a pity, however, that this story is cast in the form adopted. Narratives of trivialities written in the first person are apt to repel the reader by the atmosphere of egotism which surrounds them. Mrs. Reynolds can tell a story to interest children, but for that object a freer use of fiction than she has indulged in in this volume is wanted; and she evidently has admirable ideas concerning the training of children. But light essays would seem to be a better framework for these than autobiography. How pleasantly she writes, and how well suited her style is to the essay form, may be gathered from the following paragraph, which commences a chapter, "Concerning the Follies of the Grown-up":—

One of the earliest things which struck our dawning intelligence with regard to that peculiar race of people, the grown-ups, was their stupendous folly. This was the more noticeable because they themselves were evidently so completely ignorant of

their lack of sense that they boldly flaunted their imbecility on every possible occasion. After a while we grew used to this, ceased to wonder at it, began, in fact, to humour their little vagaries and appraise all that they said and did at its proper worth.

"THE COMING OF THE KILOGRAM" is the happy title chosen by Mr. H. O. Arnold-Forster, M.P., for a discussion of the metric system, filling 150 pages, just published by Cassell & Co. (2s. 6d.). Mr. Arnold-Forster explains that he has not written this book as a manual of instruction, but that his "object and aim," as he somewhat redundantly describes his purpose, "is to make Englishmen realise the position in which they stand in the competition of the civilised world, and to show them exactly what it is that they are risking by clinging to their present system of weights and measures, while almost every other nation in the world is adopting another and a saner plan." We cordially sympathise with this "object and aim." Our system of weights, measures, and coinage is the most effectual obstacle to our success in the fierce competition which now prevails for the markets of the world. It is of the utmost national importance that it should be abandoned, at least so far as export-trade is concerned, and that speedily. But we cannot help thinking that a man in Mr. Arnold-Forster's position could have found a better way of impressing his prophecy upon the commercial world than by burying it in a half-crown book. He gives one illustration of the actual loss of an order to Great Britain on account of the incomprehensible measurements quoted. This example fills a single page. Meanwhile, nearly a hundred pages are devoted to the perfectly superfluous labour of explaining what decimals are, what weights and measures we now use, and how much superior the metric system is to them. If the author would make it his business to collect a hundred instances of loss of orders similar to the one he has got from Bulgaria—and with the aid of our Consuls it would not be difficult to multiply these—he would bring home his arguments to our merchants with infinitely greater force than he can by long sums worked out in the two methods.

New Companies & Company News.

AUXILIARY SOAP COMPANY (LIMITED).—Capital 40,000*l.*, in 1*l.* shares (20,000 8*l.* per cent. cumulative preference). Objects: To manufacture, sell and deal in soap, perfumery, and chemical, medicinal and toilet articles.

SPOONER & BAILEY (LIMITED).—Capital 20,000*l.*, in 1*l.* shares (8,000 8*l.* per cent. cumulative preference). Objects: To adopt an agreement with James Bailey and Ellerton Bailey, and to manufacture, sell and deal in chemicals, sulphuric acid, chemical manures and oil-cakes. Registered office, Totton, Southampton.

COMMERCIAL ALBUMEN COMPANY (LIMITED).—Capital 5,000*l.*, in 1*l.* shares. Objects: To adopt an agreement with P. Gerald Sanford, analytical chemist, of 20 Cullum Street, London, E.C., and to acquire, own and work certain patented inventions for improvements in the treatment of blood and other albuminous matter, and for improvements in the treatment of tanning-liquids. The first directors are C. Arthur Pearson, Edward Johnstone, and P. Gerald Sanford.

SPRATT'S PATENT (LIMITED).—The prospectus of this company stated that the continued growth of the business and the consequent enlargement of the new freehold factories, warehouses, other premises and plant and stock-in-trade at Poplar, required a considerable increase of cash capital. The company, therefore, invited subscriptions for a new issue of 10,000 5*l.* shares, preferentially entitled to 4½ per cent. per annum and also preferential as to capital. The authorised share-capital of the company is 200,000*l.*, in 40,000 shares, of which 30,000 have been issued, and the present issue is the remaining 10,000. There have also been created 83,000*l.* of 4-per-cent. debentures. The subscription-lists for this issue of preference shares were closed early on Monday, the applications being six and a half times over the amount required. A large number of applications which arrived too late, had to be returned.

BILLINGTON'S MINERAL-WATER COMPANY (LIMITED).—At the Manchester Assizes on November 9, before Mr. Justice Bigham and a special jury, an action was brought by this company, whose habitat is Blackpool, against four brothers named Billington, for damages for alleged false and fraudulent representation in the disposal of the business. For the plaintiffs it was stated that in 1897 the defendants floated the company for 14,000*l.*, representing that the business then being conducted by them was doing 150,000 bottles per annum; that they had 5,000 customers; and had 2,000 boxes of bottles in constant use; all of which statements were exaggerations. It was also alleged that the defendants had made false entries in their books, and had in other respects tried to "do" the promoters of the company. The defendants denied these allegations, and the trial, which lasted for three days, resulted in a verdict and judgment for the defendants.

KODAK (LIMITED).—Under this title, and with a capital of 1,600,000*l.* (600,000 6 per cent. preference and 1,000,000 ordinary shares, each of 1*l.* each, but the ordinary issued at 25*s.*), the English, German, French, and the greater part of the American Eastman photographic businesses have been offered for subscription during this week in England and the United States simultaneously. Nearly half of the issue had been already allotted either to the vendor or to the shareholders in the old companies. The freehold land and buildings, plant, machinery, furniture, &c., stock, cash and book debts were valued at 561,664*l.*, so that the goodwill, patents and trade-marks of this gigantic concern are to cost the new shareholders over a million sterling. The combined capitals of the various companies included in the new combination total to rather under 1,000,000*l.* The new capital created, therefore, it will be seen, is very great. The statement of profits, however, seems to justify it. These are given for 1895 at 49,656*l.*; for 1896, 122,676*l.*; for 1897, 135,232*l.*; and for the first half of 1898, 103,459*l.* The original business was established at Rochester, U.S., in 1830

Trade Notes.

THE United Alkali Company (Limited) have removed to the offices formerly occupied by the White Star Line at 30 James Street, Liverpool. The offices are said to be among the finest in the city.

We understand that Messrs. Lyons & Co., who have obtained the catering-contract for the Crystal Palace, have entered into a contract with the Apollinaris Company for the supply of Apollinaris and Johannis at the Palace, and these will be the only waters of the kind obtainable there.

TARTARIC ACID.—Messrs. Kirkpatrick, Barr & Guthrie, 4 Cullum Street, E.C., have been appointed sole agents for the United Kingdom and Colonies for the German and Austrian tartaric-acid makers' convention, and orders for their products will be executed by them.

AMONG our advertisements this week Mr. Beecham gives a list of over 70 towns where his mutual agreement is in force, and he states that though it is now more than fourteen months since the first agreement was signed no case of breaking faith has yet been reported to him.

THE SHARP BROTHERS SOAP AND PERFUMERY COMPANY (LIMITED), Red Lion Square, W.C., have formulated an offer of a handsome window-decoration to November purchasers of 5*l.* worth of their Christmas goods. Full particulars will be found in the advertisement columns of our last week's issue.

FLORAL SACHETS.—Messrs. Wilkinson & Co., 114 Cheap-side, E.C., who have lately commenced a druggists' sundries and proprietary-articles business, are introducing to the trade a nice 6*l.* line in sachets. The sachets are in the form of silk bags of various colours, and round the top is tied a flower representing the perfume contained in the bag. The sachets are a pretty line, and although saleable all the year round should be in good demand at this time of the year.

HAWLEY'S COUNTER-ADJUNCTS form the subject of an addendum to the list published three years ago. The adden-

dum contains thirty pages of novelties which have been added to the series during the past three years. Each of the new articles is illustrated with an engraving, which shows the style very well, and this is supplemented by a written specification and samples of the labels. Copies of the new list can be obtained from Messrs. Evans, Lasher & Webb, Bartholomew Close, E.C., on application.

D.C.L. MALT.—The Distillers Company (Limited), of Edinburgh, propose this winter to still further extend the publicity of their malt-extract and its preparations, especially extract of cod-liver oil, and it would be advisable for retail-druggists to put themselves into a position to meet any increased demand for the article. When it was first brought out we found on analysis that the malt was of high diastatic power, and a recent examination shows that the high quality is well maintained. The combination with cod-liver oil is quite pleasant to take and is a favourite with children.

INFANTS' FOOD.—Messrs. Allen & Hanburys (Limited) inform us that on December 1 they will change the title of their No. 3 malted-food from "Allen & Hanburys' Malted Infants'-food" to the title as shown in the accompanying engraving. Nos. 1 and 2 have been called the "Allenburys" for some time, and this No. 3, though not a new food, or changed at all in composition, completes the series. Retailers and wholesalers alike should compare the old style with the new, as illustrated.

ROGER & GALLET'S AGENTS.

—In our issue of October 29, page 699, our Town Traveller state that Messrs. Maw, Son & Thompson are English agents for Messrs. Roger & Gallet's preparations. Messrs. R. Hovenden & Sons wish it to be known that they also are agents in England for the productions of that well-known Parisian firm.

NEW BITTER-ORANGE PEEL.—Rumours have been current on 'Change this week that a cargo of Seville oranges had arrived in Liverpool, but we are able to state that several cargoes have arrived in London, and from one of these received by Messrs. C. Southwell & Co., Dockhead, S.E., we have obtained a sample of fresh bitter-orange peel for making the new B.P. tr. aurantii. The arrival is exceptionally early and no doubt has been expedited by the great demand there has been since the Pharmacopoeia was published. The peel is a little pale in colour, because it has been cut from immature fruit, but it has a full flavour and taste. Messrs. Southwell supply it to retailers in 1-lb., 5-lb. and 10-lb. boxes, and the supply will be kept up until the end of February at least, but it is advisable for the trade to place their orders at once.

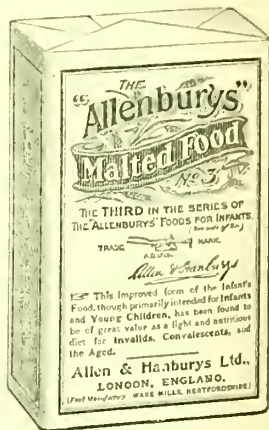
ALBUMEN.—The shipments from Shanghai during July amounted to 107 piculs, of which 56 came direct to London, and the remainder to Hamburg, Havre, and New York.

THE Spinster (in the dentist's chair): "Oh, I can never permit you to put your hands in my mouth. It is not decent!" The Dentist: "Dear madam, I shall wash them as soon as I have finished."—*Judy*.

CONSCIOUS GUILT.—A correspondent of the *Grocer*, signing himself H. B., and giving no address, writes to that journal as follows:—

SIR,—May I put patent-medicine vendors on their guard re poisons? The Pharmaceutical Society has just issued a circular to its local secretaries, and as a result I have had several inquiries for prohibited goods. In one case a lady was most pleading to be supplied, saying she had it before and we surely would not refuse her now.

The law says unqualified persons may not sell poisons at all. H. B. says you had better not sell them just now, for the Pharmaceutical Society is watching.



The Winter Session.

A Chemists' Association for Burnley.

A MEETING of chemists and druggists in Burnley and district, convened for the purpose of considering the desirability of forming an association, was held at the Bull Hotel, Burnley, on November 10. In response to invitations sent out by Mr. J. Brown, there was a fairly good muster. Mr. J. A. Heaton was voted to the chair. Mr. BROWN read letters from a number of chemists who were unable to be present, but who signified their intention of supporting an association.

Councillor CRITCHLEY, President of the Blackburn Association, who was introduced by the Chairman as the "father of Blackburn chemists," spoke of the benefits the chemists there had derived from their Association. Their success was largely due to the dinner which they held once a year, and which brought the members together. By this they were creating a good feeling in the trade.

Mr. GIFFORD, Secretary of the Blackburn Association, who also spoke, said he thought the time had come for altering the laws affecting pharmacy. It was said they did not live so much by pharmacy as by trade pure and simple. But they were fighting for to-morrow. This was an age of progress, and everything was tending towards specialisation. They had more stringent examinations now and fewer privileges than they had thirty years ago when the Pharmacy Act was passed. Why? Because the Pharmaceutical Society had not fulfilled its charge. It had made examinations more stringent, but it had failed to make their privileges more secure. They were attacked on every side by unqualified practitioners. Anyone who could not make a living easily turned towards pharmacy. What they wanted was *esprit de corps* all round, and they demanded that those who were not qualified should not act as chemists and druggists.

Mr. HOLT, of Blackburn, also spoke, and reported on the Federation meeting at Belfast.

Mr. WILKINSON (Colce), the oldest chemist in the Burnley district, expressed his sympathy with the proposal. He said the calling of the chemist and druggist had become a by-word and a reproach, and it was time that, by united and concerted action, they asserted their true position. Why should the State inflict upon them severe examinations, and not give them some equivalent more than they had? Doctors, lawyers, and dentists were to a large degree protected by the State, and artisans, with their trade-unions and labour-leagues, could vindicate their rights. The Teachers' National Union was another example of what could be accomplished by union. If the chemists of England were only united, they could compel Parliament to remove the injustice of unqualified drug-stores. If a body of them one hundred strong were to wait upon their representative, Sir U. K. Shuttleworth, he would be open to reason, and would admit the justice of their claims.

Ultimately, on the motion of Mr. COLLINS (Nelson), seconded by Mr. WILKINSON, it was decided to form an association which should be affiliated with the North-East Lancashire Association with certain reservations. The following officers were elected:—President, Mr. J. A. Heaton; Treasurer, Mr. C. E. Dodsley; Hon. Secretary, Mr. J. Brown; committee, Messrs. Hitchin, Walker, Clarkson, Shepherd, Lawton (Nelson), Stuttard, and Wilkinson (Colce).

Newcastle-on-Tyne Chemists' Association.

AT a meeting held on November 9, Mr. Kerse, in the absence of the President, in the chair, Mr. T. MALTBY CLAGUE, pharmaceutical chemist, lectured on the x-rays. Having narrated the history of the science of radiography, and explained the apparatus he operated with, Mr. Clague made a number of practical experiments. Some relics of bygone days—mostly of metallic nature—in the form of foreign bodies which had been located in various parts of the human anatomy by the lecturer in the course of professional work, proved of interest to the meeting. "This," said Mr. Clague, holding up a piece of steel of about the diameter of a sixpence, "is a small piece of H.M.S. battleship *Victoria*, which was in the possession of a workman in the Elswick works for many years (unfortunately, however, its then

owner could not lay his hands upon it). The large piece of the same vessel was kept by Admiral Tryon, and is now at the bottom of the Mediterranean." The workman had been injured during the building of the ship at Armstrong's, and for years the metallic invader had baffled the surgeon until unearthed by the aid of the x-rays.

A vote of thanks was passed to Mr. Clague and his assistant, Mr. T. S. Herd, who operated the apparatus.

Cambridge Pharmaceutical Association.

AT the annual meeting, held on November 11, Mr. Alderman Deck in the chair, the Treasurer (Mr. H. F. Cook) reported a balance in hand of 1*l.* 13*s.* 2*d.*, and a reserve-fund of 2*l.* The following officers were elected:—President, Mr. Alderman Deck, F.C.S.; Vice-Presidents, Mr. A. Sidney Campkin, J.P., and Mr. E. Saville Peck, B.A.; Hon. Treasurer, Mr. H. F. Cook; Hon. Secretary, Bernhard S. Campkin, Mill Road, Cambridge; committee, Messrs. C. S. Addison, G. McAvoy, H. S. Parson, F. Harris, Spencer Turner, and W. L. White.

It was decided to hold a *conversazione* during the winter.

Chemists' Assistants' Association.

THERE was a large gathering on November 10 to hear a paper by Professor J. REYNOLDS GREEN, F.R.S., on

THE BIOLOGY OF YEAST.

The yeast-plant, he said, had always attracted considerable attention from investigators, as it was considered the representative of a large class of ferments. It was in 1680 that attention was called to the apparently uniform presence of a scum in the vats in which alcoholic fermentation was conducted, and an examination was instituted to find out whether the scum had anything to do with the process. It was found to be made up of small granular bodies, which, the observers correctly surmised, derived their sustenance from the surrounding liquor. The organism was examined by many other scientists, and finally found to be vegetable, and was classed among the fungi under the name *Saccharomyces*. In 1830 investigators at Jena and Berlin succeeded in tracing the action of the yeast-plant in connection with the formation of alcohol and carbon dioxide from sugar.

Professor Green went on to say that it was not his intention to discuss the general question of fermentation, confining his remarks to the biology of the yeast-plant. Pasteur, he said, found that in

THE NUTRITION OF YEAST

a second process went on, and as his work was quantitative he detected a discrepancy of 4 or 5 per cent. between the amount of sugar fermented and the alcohol and CO₂ produced in the process. He recognised succinic acid and glycerin among the products of the activity of yeast. He also investigated the varying degrees of activity of the yeast-plant under varying conditions, such as the presence and absence of oxygen. In the absence of oxygen ordinary organisms, except the bacteria of putrefaction, cease to live. Pasteur found that, although yeast worked well in the presence of oxygen, it worked even more energetically in its absence; this, he explained, was because yeast attacked sugar for the sake of its oxygen. His hypothesis was that "fermentation is the expression of the life of the organism in the absence of oxygen." He calculated that in the absence of oxygen the activity of yeast is about eight times as great as in its presence; and it was on this fact that he based his hypothesis. But, said his opponents, if this was true then yeast should not cause fermentation when oxygen was readily available.

During some interesting experiments subsequently made with a view to finding out whether there was any variation in the products of the ripening of certain fleshy fruits, when the ripening took place in an atmosphere from which oxygen had been removed, it was found that the fruit constantly gives off CO₂, although oxygen was absent, and that various alcohols and esters resulted though no ferment was found in the pulp. From this it was concluded that in the absence of oxygen the protoplasmic-cell contents decomposed sugar with the formation of alcohols.

In opposition to Pasteur's views, it has been argued that the normal work of yeast on sugar is nutritive, and not respiratory, but that in the absence of oxygen the action of yeast may be connected with respiration. This is the view now held. The carbon dioxide formed on the surface of a vat tends to shut off oxygen from the liquid underneath, and so alimentary fermentation may be succeeded by respiratory work on the part of the

ASPHYXIATED YEAST.

The same process occurs in most plants: if oxygen is withheld carbohydrate is decomposed, and respiration thereby maintained. Professor Green next spoke of the metabolic processes of the biology of yeast. In the course of growth, he said, the yeast-plant has first to make its food-supply available and then to use it.

Cane-sugar and malt-sugar as such are of no use to yeast; but these, on hydrolysis, split up into dextroses—glucose and fructose—which are at once made use of. It was found that an unorganised body that would split up cane-sugar could be prepared from yeast by drying and extracting with water. This was the enzyme, invertase.

It was for a long time a mystery how maltose was acted on by yeast, for invertase would not split it up. This was at length cleared up by the discovery of another enzyme, maltase.

The several species of yeast produce respectively several different enzymes. Some of these have been isolated.

Yeast needs, in addition to sugar, proteids, and these it produces for itself; it can grow in a solution containing organic nitrogenous bodies. All extracts of yeast contain some coagulable proteid, which is precipitated on heating the extract to 45° C, and on adding chloroform or alcohol it has been found that yeast provides another enzyme to digest this proteid, which it breaks up into amides—leucin and allied bodies. This was demonstrated by

AN EXPERIMENT OF BUCHNER'S,

who found that extract of yeast, after standing three days, gave no precipitate on boiling, the coagulable matter being digested and made uncoagulable.

Yeast does not necessarily use up sugar directly it is taken in, but can store it as glycogen, and can break down this reserve carbohydrate by a diastase when required, and, therefore, under certain conditions, can produce alcohol in the absence of sugar. The question why yeast should produce alcohol has agitated many minds; it was thought that this might be the work of another enzyme, and Buchner has recently (1897) succeeded in isolating it. He produced an extract which when mixed with cane-sugar set up fermentation. Professor Green had repeated this experiment, and found that on mixing his extract with sugar-solution fermentation was set up, and at the end of a week alcohol was obtained from the liquor by distillation. Alcoholic fermentation is now shown to be due to an enzyme, and the enzyme has received the name of "Buchner's zymase." Zymase is present only in actively-fermenting yeast-cells.

Professor Green then referred to the researches of Hansen, of Copenhagen, who has found that the chief factor in producing beer of any special flavour is the use of the appropriate variety of yeast, pure cultures of each variety giving the best beers, and concluded by saying that recent work by Tollomai has resulted in the discovery that the flavours of special wines can be produced by adding certain ferments to neutral wines.

A vote of thanks, proposed by the PRESIDENT (Mr. F. W. Gamble) and seconded by the HON. SECRETARY, was then passed, and Professor GREEN briefly replied.

Edinburgh Chemists', Assistants', and Apprentices' Association.

At the meeting held at 36 York Place, Edinburgh, on Wednesday, November 9, Mr. G. H. C. Rowland in the chair, Mr. William Duncan, F.C.S., who had charge of the arrangements, introduced Miss Madgshon, a pupil in the pharmacy of Mr. Peter Boa, who was the first lady pharmacist to read a paper before the Association.

NOTE ON THE B.P. GLYCERIN SUPPOSITORIES,

By Flora C. Madgshon.

In making glycerin suppositories by the method of the British Pharmacopœia I have observed that there are invariably some pieces of gelatin which remain undissolved and in a hardened condition; while making by a slightly different method other gelatin preparations of somewhat similar composition, I have not been troubled with this insoluble residue. This difference gave rise to the little inquiry which forms the basis of my note. The pertinent part of the Pharmacopœia direction is as follows:—

Place the gelatin in a weighed evaporating-dish with sufficient water to cover it, let it stand for two minutes, pour off the excess of water, set aside till the gelatin is quite soft, add the glycerin, and dissolve on a water-bath.

The object of soaking the gelatin with water is to hydrate it sufficiently to render it soluble. When glycerin is added in the way the Pharmacopœia directs to gelatin so soaked, dehydration immediately begins, owing to the strong affinity which glycerin has for water; consequently, before the operation can be completed, part of the gelatin has been deprived of its water, and will not dissolve. In proof of this, the undissolved portions, soaked with a little water, and heated, will readily pass into solution. The quantity which has become insoluble varies according to the rapidity of the manipulation. If, instead of adding the glycerin to the soaked gelatin before applying heat the softened gelatin be dissolved on a water-bath in the water of hydration, and the glycerin then gradually added, the result is completely satisfactory, and accomplished without loss of time or material. A point to be observed in dissolving the gelatin is not to stir so vigorously as to introduce much air into the solution, or inconvenient frothing will ensue. Gentle stirring is all that is necessary, and, if performed with little-breaking of the surface, aëration need be very little.

Mr. RUTHERFORD HILL said there was a formula for preparing glycerin-jelly as a mounting-medium in microscopic work, and it was made in the way suggested by Miss Madgshon, which seemed obviously the best way. It would appear that the error in procedure arose somehow in connection with Squire's process for gelatin-suppository basis, from which the official formula was copied.

Mr. BOA said the matter arose from a frequent trouble in making suppositories, especially on short notice, by the official method, and a little investigation proved that the method suggested in the paper obviated all difficulty. This was one point that rather indicated something that was more theoretical than practical in the compiling of the Pharmacopœia.

Mr. GEORGE SINCLAIR said he had found the same difficulty in making Unna's gelatum zinci.

Mr. COWIE said he did not agree as to the explanation of the insolubility of the gelatin. It was due to hard pieces of gelatin, which ought to be picked out, and not to the dehydrating-effects of the glycerin.

Mr. DUNCAN said the finest sheet-gelatin was used, and he did not think the difficulty was due to presence of hard pieces. If 1 oz. of glycerin and 1 oz. of mucilage of acacia or simple syrup were mixed there would be a separation of gum or sugar, because the glycerin took up some water. The same thing happened in this case, and he thought it was clear that Miss Madgshon's explanation was correct.*

The CHAIRMAN said he had found the same difficulty in making ichthyol suppositories, and had found that they

* [The following is extracted from an Editorial note on "B.P. Problems," in the *C. & D.*, September 17, page 489.—Ed. *C. & D.*]:—"In making glycerin suppositories, the gelatin having been soaked, as officially directed, for two minutes and set aside to soften, the glycerin is then added and the application of heat speculatively delayed for some hours. Is this last arrangement favourable or prejudicial to the subsequent operations, and why?" asks a correspondent. The reply is—Prejudicial, as contact with the glycerin restores the gelatin to its original hardness. Martindale omits the important "set aside," which permits of the thorough softening of the gelatin, and, on the other hand, the B.P. omits the requisite precaution to dissolve "at once" on water-bath after the addition of the glycerin.

could be made without any difficulty by following Miss Madgshon's method.

The next paper was on

THE DISPENSING OF A STRYCHNINE-MIXTURE.

By J. Rutherford Hill.

THE author showed two mixtures which were markedly different in appearance. They were dispensed in two different pharmacies from the following prescription:—

Liq. strychnine hydrochloratis	
(1885)	5ijj.
Potass. iodidi	5iss.
Aquam ad	5iv.

In both cases the dispensers added a suspending-agent. In one 5ij. mucilage of acacia, in the other 5ij. glycerin. When acacia is used there is very little separation of any precipitate for several hours. It looks, indeed, as if precipitation had been prevented, and a careless dispenser might send out the mixture without any direction to shake the bottle, and the consequence might be serious, as there is ultimately a separation of the comparatively insoluble strychnine hydriodide. After twelve hours the strychnine salt has settled on the bottom of the bottle to which the acacia causes it to adhere, and it can only with difficulty be detached in an indiffusible state. The mixture, through oxidation, assumes a dirty brownish-yellow colour, owing to the presence of free iodine. Acacia seems to facilitate oxidation, probably because, being always acid, it liberates hydriodic acid from the potassium iodide. Even in the case of ferrous salts acacia seems to facilitate oxidation. When glycerin is used in place of mucilage strychnine hydriodide separates in a few minutes, but it easily diffuses, and the mixture remains for months perfectly colourless. The glycerin apparently prevents oxidation. The mixture should not be dispensed at all unless the prescriber insists on it.

LOTIO HYDRARGYRI NIGRA.

By William Duncan, F.C.S.

In this note the author said the addition of glycerin and tragacanth mucilage to this lotion is very bad pharmacy. Occasionally complaints were made that the original preparation was not stable and developed mercuric oxide on keeping, so glycerin has now been added to keep it mercurous. This addition may be unobjectionable provided it does not induce reduction of the oxide to metallic mercury, but tragacanth simply ruins the preparation—the oxide clotting with the insoluble gum. He showed three samples: (1) made by the original formula, (2) by the 1898 formula, and (3) with acacia instead of tragacanth. They were made about a month ago, and, after comparing them, the conclusion was inevitable that the sooner a return is made to the old formula the better.

The next paper was by the same author on

MAGNESIA IN MIXTURES.

The tendency of magnesia and similar salts to cake into hard non-diffusible deposits when dispensed in aqueous mixtures is well known. The following is a fresh example:—

Magnes. calc....	...	...	...	5vj.
Spt. aetheris nit.	...	...	...	5vj.
Sacch. alb. ...	...	...	...	5ss.
Ol. menth. pip.	...	...	...	℥xx.
Aquam ad ...	...	...	...	5viij.

Dispensed in the usual way, the magnesia in a few days becomes a hard solid mass which refuses to break up by agitation. Various methods were tried to get a diffusible powder, and the best result was obtained by boiling the magnesia in half the water, adding the sugar, continuing to boil for a few minutes, and after cooling, adding the other ingredients.

Similar experiments were made with the following:—

Magnes. sulph.	...	...	...	5j.
Magnes. calc....	...	...	...	5ss.
Aquam ad ...	...	...	...	5viij.

This mixture frequently causes trouble from caking. The caking is due to the fact that magnesia absorbs water to form hydrate. In doing so it aggregates, especially in the

presence of certain salts, much in the same way as calcium sulphate does. The hardness and rapidity of the caking largely depend on the other constituents and on the shape of the bottle. In a mortar or flask with a rounded bottom, allowing free expansion, the hardening is not so great as in an ordinary dispensing-bottle. If previously hydrated magnesia is used the difficulty does not arise. Most samples of magnesia absorb water more or less readily—especially light magnesia—and show a tendency to aggregate into a gelatinous mass. This property, however, is not constant, and seems due to the temperature to which the salt has been exposed during calcination. Much attention has lately been given to the rapidity with which magnesia absorbs carbonic anhydride. The author's experience was the same as J. C. Umney's—viz, that the absorption largely depends on the presence or absence of moisture. The better hydrated the magnesia the more rapid is the formation of carbonate.

The reading of the papers was followed by an interesting discussion. Owing to the lateness of the hour some "Notes on the Pharmacopoeia, 1898," by Mr. Duncan, were postponed.

The Association has arranged with the St. Andrews Ambulance Association for the formation of

AN AMBULANCE-CLASS.

The first meeting was held at 36 York Place on Monday evening. Dr. EDMUND PRICE, the lecturer, said he knew no class of men to whom instruction in first aid to the injured was more likely to be useful than pharmacists. That they needed some such instruction he had on several occasions been made aware. On one occasion he was consulted by a man whose forehead was swollen to about twice the usual size. He had sustained a cut over the brow, and this had been very neatly hermetically sealed by a chemist with adhesive plaster. On removing the plaster there was an abundant escape of pus from the wound, which explained the swelling. Had this chemist had ambulance-instruction he would have known that the edges of a wound should be brought together with strips of plaster at right angles to the cut, and with sufficient intervals for the free escape of any effete matters. This course of lectures would not qualify them for becoming prescribing-chemists. He did not think they were likely to fall into that mistake, for such was, he was glad to say, not the tendency of Edinburgh chemists. They had no temptation to do so in Edinburgh, for the reason that there were no dispensing-doctors and he felt sure that so long as the doctors left dispensing to the chemists they would leave the prescribing to the doctors. The lecturer then proceeded to sketch the general anatomy of the human body. The class meets every Monday night at 8.45. Members wishing to join should communicate with the Secretary, Mr. Harley, 4 North Bridge.

Midland Chemists' Assistants' Association.

MR. J. SELBY presided over the third meeting of the session, held at Birmingham on November 9. A paper was read by Mr. J. F. LIVERSEEDGE on "Health and Occupation." The lecturer, by the aid of a mass of figures, showed how dangerous some occupations were. After referring to the excessive mortality arising from association with the liquor-traffic, he spoke of those trades and occupations in which the workers were subjected to dust, impure air, and lead-poisoning. He urged the great importance of thorough ventilation, and the compulsory use of a mask in all occupations which affected the breathing-organs.

Glasgow and West of Scotland Pharmaceutical Association.

THE first ordinary meeting was held in the Rooms, West Regent Street, on Thursday evening, November 10, Mr. W. L. CURRIE (the President) in the chair. He referred to the Pharmacy Acts Amendment Act, and appealed to the members to do all they could to get their friends to join the Pharmaceutical Society, so that the membership might be raised from 4,000 to 10,000, whereby the Society would be strong enough to go to Parliament and ask for what the trade wants.

THE BRITISH PHARMACOPOEIA CRITICISED.

Mr. THOMAS DUNLOP then read a paper on "The British Pharmacopœia, 1898." He said that the Association had taken such a lively interest in its production that he thought they should not seem to be indifferent to it now that it was an accomplished fact. It was gratifying to find that several of the suggestions they had forwarded had been considered worthy of adoption. At the Conference it had been stated that in the production of the B.P. the medical profession and manufacturers had been more studied than pharmacists, and on that account pharmacists might the more readily be excused if they were its principal critics. It had been generally, and rightly, admitted that it was an advance on any of its predecessors. Its qualitative chemistry, and the physical and chemical tests that were appended to fixed and volatile oils and other articles of *materia medica*, placed in the hands of the pharmacist weapons of defence that were invaluable. Whilst redundancy had been eliminated from the text it had been introduced into the index, which had thereby assumed dimensions that could not serve any useful purpose. For example, three pages were taken up with the acids ranged alphabetically, first in English and then in Latin. Similarly, two pages were taken up with the extracts, one page with the infusions, one and a half page with the pills, one page with the syrups, and five pages with the tinctures. The cross-references were not more numerous than in the 1885 Pharmacopœia, but the fact that dosage and composition (or percentage strength) were repeated in each case made it more cumbersome. Although there was only one page more in the text of the volume, the index took up sixty additional pages, and comprised nearly one-sixth of the volume. The section of it with which they came most closely into contact was pharmacy. It had been enunciated at the Conference, presumably in the interests of manufacturers, that the pharmacist of the future was likely to stand in the same relation to galenicals as the pharmacist of to-day did to chemicals. It was to be hoped, however, that the "traditional pharmacist" and the "pharmaceutical purist" would not become extinct species, but that as education advanced their numbers would increase. Mr. Dunlop then commented in general terms upon the concentrated liquors and ointments, pointing out that sulphur ointment is a very watery-looking preparation, and one wondered what called for it being altered. Noting the improvement in oxymel of squill, he asked, Why not have acetum scillæ made double strength and dilute when required for syrupus scillæ? In speaking of syrups he pointed out that syrup of codeine contains $1\frac{1}{2}$ gr. of codeine per ounce while the unofficial syrup contains 2 gr. In the course of some remarks on tinctures Mr. Dunlop said the inclusion of an 80-per-cent. alcohol (from 90 per cent. to 70 per cent. was a big gap) would have been very judicious, as it could have taken the place of the 90 per cent. in many cases when such a strong alcohol was not required—*e.g.*, spt. camphor., spt. chlorof., spts. of the ess. oils, and tinctures generally where S.V.R. of the 1885 Pharmacopœia was used. Under ol. menth. pip. they were informed that "it should dissolve in four times its volume of 70-per-cent. alcohol," and yet nine times its volume of 90-per-cent. alcohol was ordered to make spt. menth. pip. Similarly, one volume of ol. lavand. dissolves in three volumes of 70-per-cent. alcohol, and ol. rosmarini in twice its volume of 90-per-cent. alcohol, whilst nine volumes of 90-per-cent. alcohol were ordered for the respective spirits. Asafetida, on the other hand, we are informed "should contain not less than 65 per cent. of matter soluble in 90-per-cent. alcohol" (it did not say how much alcohol would be required to dissolve this 65 per cent.), and yet the tincture, although it has been increased in strength from 1 in 8 to 1 in 5, is ordered to be made with 70-per-cent. alcohol. In this connection, it would be interesting to know if manufacturers, to whom they were asked to pin their faith, observed the standards of crude drugs before making galenicals as they must do the standards of officially-standardised pharmaceutical preparations? That was where the extractive residues of the tinctures would give an approximate indication of the quality of the drugs that had been used in their manufacture. This question had been suggested by an experience of his own in making tr. asafet. since the issue of the new B.P. The gum resin, so far as appearance and aroma went,

seemed good, but it only yielded 48 per cent. of soluble matter—a deficit of 19 per cent.—and the ash amounted to 31 per cent., an excess of 21 per cent. Moreover, although it had been such a poor specimen, the menstruum only removed 43 per cent. of the soluble matter, which showed that 70-per-cent. alcohol was not sufficiently strong. This was further proved by the tincture, which was bright, producing opalescence when it was mixed with some 1885 tincture. A glance at past Pharmacopœias with reference to this drug showed how capricious an authority the Pharmacopœia was for the time being. In 1867 asafetida was said to "dissolve almost entirely in rectified spirit"; in 1885, "50 to 60 per cent. should be soluble in rectified spirit"; and now the percentage had been raised to 65. An analysis of the changes that had been made in the tinctures showed that forty-one had been strengthened in alcohol:—

11 menstruum S.V.R. 1885 tinctures are now made with 90-per-cent. alcohol.

3 menstruum proof spirit 1885 tinctures are now made with 90-per-cent. alcohol.

6 menstruum proof spirit 1885 tinctures are now made with 70-per-cent. alcohol.

21 menstruum proof spirit 1885 tinctures are now made with 60-per-cent. alcohol.

Of these six had been weakened in active ingredients, nineteen were unaltered, and sixteen had been strengthened. On the other hand, eighteen tinctures had been weakened in alcohol:—

7 menstruum S.V.R. 1885 tinctures now made with 70-per-cent. alcohol.

11 menstruum proof spirit 1885 tinctures now made with 45-per-cent. alcohol.

Of these four had been weakened in active ingredients, three were unaltered, and eleven had been strengthened. Six proof-spirit tinctures and four S.V.R. tinctures had been omitted and three tinctures had been added. The *modus operandi* in the percolation process also called for remark, inasmuch as the relation of menstruum to drug in the initial process had been reversed. The quantity now ordered was inadequate for the purpose of damping, his experience being that, to thoroughly moisten a drug, it required double the volume of menstruum for the weight taken. On the chemical side, it might be noted that the tests for essential oils would have had their usefulness increased had colour-reactions, as well as physical changes, been uniformly observed. In the ammonia-test for ol. caryoph. and ol. pimentæ the colour of the "semi-solid" was stated in the case of the former, but not of the latter. In the latter there were two strata, the lower being orange-yellow and the upper amber-coloured, which ultimately assumed the original colour of the oil. Then the phosphoric acid test for ol. cajuputi and ol. eucalypti acted differently on these oils. In the former the green colour was discharged and a pale straw-coloured mass resulted, while in the latter—as stated by Helbing—the addition of the acid produced "a dark-reddish coloration." Then the nitrite-test applied to ol. eucalypti produced a beautiful emerald-green colour, but, according to Baker and Smith, of the Technological Museum, Sydney, the oil of the *Eucalyptus globulus* does not give this coloration. If that were so the importance of that colour-reaction could easily be seen, seeing that globulus was official, and commercially was the higher-priced oil. Several samples he had examined all gave the green colour, and they were bought as globulus. [We should say that Baker and Smith are wrong, or have been wrongly reported. —ED. C. & D.] Ol. cadini is stated to be "soluble in ether and chloroform, partially soluble in cold, almost entirely in hot alcohol 90 per cent.," but in what proportion was not stated.

Mr. ROBINSON thought the object of using strong alcohol in rosemary and other spirits was to give a better solution when mixing with water.

Mr. SUTHERLAND thought the index a distinct improvement, especially in regard to doses, but more profuse than it really required to be. The ointments were a decided improvement upon those of the old Pharmacopœia, with the exception of cold cream. In many cases the tinctures were

stronger in alcohol than necessary, but probably this was to allow for losses in evaporation of those which had to be kept. They were agreed that pharmacists were not represented on the Pharmacopœia Committee as they should have been, but that would be remedied. He could not say there was any distinct improvement in the keeping-properties of Easton's syrup prepared according to the B.P. It deposited in a very short time. The spirits were too strong in alcohol. The colour-test of essential oils might have been added. In a very few years pharmacists would be quite able to test these, and also a great many other things, in a manner they could not now all do. They could not get over the fact that in most cases many preparations were not now made by the average pharmacist, simply because of the peculiar difficulties not easily overcome by the smaller pharmacists. Most of them were coming to the conclusion that quite a number of things were beyond the capabilities of the ordinary pharmacist, as, for example, the standardised preparations. But why should not simpler assay-processes be given? While he did not doubt that these were supplied by the wholesale houses at the pharmaceutical strength, it was desirable that these should be manufactured by the pharmacists themselves. Examiners had been trying to inculcate into the students the necessity of manufacturing for themselves as many as possible of the preparations of the Pharmacopœia. Until the new generation of medical men studied the new Pharmacopœia it would be necessary for the pharmacist to keep a double stock. The new concentrated liquors were not, in his opinion, equal to the old-fashioned infusions. He could not see that uniformity of doses was a step in the right direction.

Mr. D. WATSON, referring to the B.P. formula for cold-cream, said he had noticed discussions stating that the formula was a failure. He had found that a great deal depended on the rose-water and the temperature at which it was incorporated. With great care they could get in all the rose-water, and make a very presentable preparation. In preparing tincture of gentian the appearance at first was different from the old tincture, yet after keeping for a short time he found that it cleared considerably.

Mr. JOHN MACMILLAN said, with reference to the cold-cream formula, that the surprising thing was how it was there at all. Why did they not use the more modern formula with lanoline?

Mr. SUTHERLAND said his experience was that the water was thrown out of the cold-cream in the course of a week, and that it did not keep as well as some of the newer formulae.

Mr. MACMILLAN thought the uniformity of doses a very great mistake. It was a Glasgow production, and he had done what he could to show the absurdity of it at the time, but the idea had been that it would be such a saving to the younger men. The difficulty with the whole of them was the number of doses on the horder-lines of safety. He had searched out about a dozen of these, and he defied any man to say whether they were strong or ordinary doses. That was where the danger lay.

The PRESIDENT, referring to Mr. Sutherland's remark about the desirability of pharmacists making their own preparations, said he had a small machine for making granular effervescing-preparations by which he could make 2 oz. to 2½ lbs., and this he would bring down and show them next meeting-night. He failed to see why the alteration of doses had been gone into to so large an extent. He was certain that many medical men who now ordered the tincture of nux vomica were not aware that they were getting a stronger dose. The introduction of liquors was quite uncalled for; the old-fashioned infusions, well prepared, gave a much better result, and he did not think could be discarded. There were considerable improvements in many of the glycerins, and in one—glycerin of borax—this improvement was very marked. He hoped next meeting the discussion would be more general.

Mr. MACMILLAN said it was absurd that they should dispense prescriptions according to the new B.P. when they were not the things ordered by the prescriber. He understood there was a difficulty about this—an omission in the Act of Parliament. Mr. MacEwan, of THE CHEMIST AND DRUGGIST, had mentioned to him that the difficulty might be overcome by publishing the book, say, in the middle of summer, and not gazetting it till January 1. Might there

not be some pronouncement sent by the Association now to the General Medical Council?

The CHAIRMAN said that was a very important matter. Of course the book was legal the moment it was published, according to what they had been told, and he did not know whether anything could be done in the matter.

Mr. SUTHERLAND said there could be no mistake about the adoption of the book immediately it was published, and he had no doubt the committee would, in the next edition, publish the book some time before they made it legal.

The discussion will be continued next month.

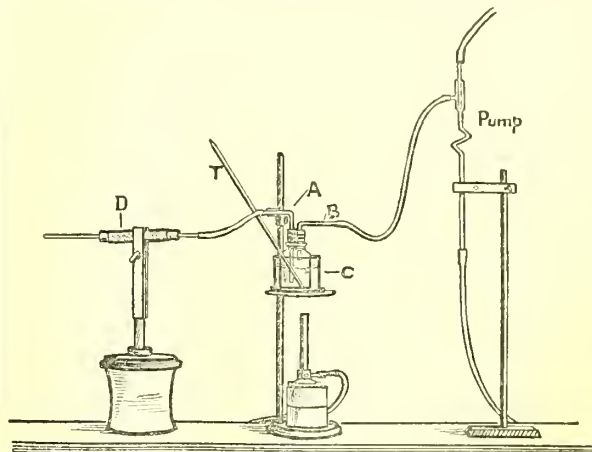
Liverpool Chemists' Association.

THE fifth meeting of the session was held on Thursday, November 10, Mr. John Bain (President) in the chair. There was an unusually good attendance of members. Mr. W. Parry, Waterloo, was elected a member. The SECRETARY announced that Mr. Ed. Evans, sen., had indicated his willingness to act as President during the Jubilee year of the Association, and the intimation was received with much pleasure by the members.

Mr. R. C. COWLEY exhibited and explained a simple laboratory-arrangement for

DRYING ALKALOIDAL RESIDUES

in organic assays. The new Pharmacopœia directs the alkaloidal residues in the assay of opium-preparations to be dried at 110° C. for two hours before determining their purity by titration. To the pharmacist this entails considerable trouble, which he does not encounter in drying other alkaloidal residues. The time also is an item to be taken into consideration by busy men. The following simple contrivance overcomes the difficulties remarkably well, and



saves time. A 50-per-cent. solution of fused calcium chloride, or a corresponding weight of the crystallised salt, boils at 110° C., and gives us a means of obtaining the requisite temperature, water being added from time to time to retain it; but by fixing a thermometer in the bath, and keeping the flame of the Bunsen low, after the required temperature has been reached the frequent addition of water is not necessary. The alkaloid, as collected on the filter-paper, is folded up and placed in a small wide-mouth hottle furnished with a rubber bung having two perforations. Two glass tubes, A and B, pass through these holes, A to the bottom of the hottle, and B terminates just within the bung. The hottle with the alkaloid is placed in the calcium-chloride bath, C. The tube A is connected with a drying-tube, D, containing small pieces of quicklime. B is attached to a Geissler's filter-pump. Heat is now applied to the bath, and the water is turned on to the pump, and dry air is sucked through the whole apparatus. As the tube A passes to the bottom of the hottle the air becomes heated, so that moist air is continually displaced by warm dry air. At first a condensation of water takes place beyond the bend in the tube B, and when this has disappeared it has been experimentally determined that the alkaloid is dry. A similar method is

adopted in drying other alkaloidal residues—using a water-bath. Where a number of assays are made the loss of the alkaloidal solvent is a consideration. Instead of evaporating the solution in a tared dish as is usually done, the solution may be collected in a small tared flask, from which the solvent is distilled; the distillate may be repeatedly used. The moisture left in the flask is removed by attaching the flask to the drying-apparatus in the place of the wide-mouth bottle. Mr. Cowley also read a note on the

ESTIMATION OF COPPER AND ALKALINE CYANIDES.

By J. T. Catford.

In this note the author advised the omission of ammonia from the titration solution, as it gives rise to secondary products which vitiate the results. Instead of ammonia add to the copper solution sodium or potassium hydroxide until a slight permanent precipitate of cupric hydrate is produced, then add a drop or two of 1-per-cent. solution of potassium ferrocyanide, and run in the standard potassium cyanide until the greenish cupric cyanide at first precipitated is re-dissolved [$\text{CuSO}_4 + 4\text{KCN} = \text{Cu}(\text{CN})_2 + 2\text{KCN} + \text{K}_2\text{SO}_4$], and the solution becomes pink from the minute quantity of cupric ferrocyanide. It is best to stop at this point to be sure too much cyanide has not been added. On standing, the cupric ferrocyanide deposits, leaving the solution colourless. The potassium cyanide reacts equally on the cupric hydrate and on any carbonate which would be produced by impurities in commercial cyanide. The slight amount of free alkali does not prevent the appearance of the cupric ferrocyanide; and experiment proves that the addition of fixed alkaline salts does not affect the amount of potassium cyanide required. Thus, an acid solution of pure copper becomes a reliable means of standardising cyanide solution preliminary to using it for volumetric assays, or, for example, to check the strength of the No. 1 Fehling's solution, the new B.P. formula for which, by-the-by, is one of the instances in it that have been calculated on the old atomic weights. In the absence of ammonia, a cupric salt reacts with KCN in the proportion of one molecule of the former to four of the latter, as silver does in proportion of one molecule to two; but the various and considerable impurities in commercial cyanide render its estimation by silver difficult, whilst copper is not interfered with by chlorides or carbonate, the latter again interfering with the estimation by iodine, which is generally used for the purpose. Fresenius recommended soda-water to be used to convert the carbonate into bicarbonate, but this not being usually amongst the reagents on the laboratory-shelves, recourse might be had to liberating carbon dioxide as in the B.P. process for estimating arsenic. But a decinormal cupric-sulphate solution does not require such precautions.

LIVING MEDICINAL PLANTS.

Mr. J. GUTTRIDGE, curator of the Liverpool Botanic Gardens, then exhibited a large number of pharmaceutical plants from the Botanic Gardens, including *Zingiber officinale*, *Maranta arundinacea*, *Cola acuminata*, *Cinnamomum verum*, *Piper nigrum*, *Hevea brasiliensis*, *Strophanthus* (species), *Physostigma venenosum*, *Bixa Orellana*, *Andropogon Schenanthus*, *Cephaelis Ipecacuanha*, *Cinchona succirubra*, and *Ipomoea purga*. Students who did not see these will find it to their advantage to visit the gardens to inspect these and many others of interest which they can see "all alive."

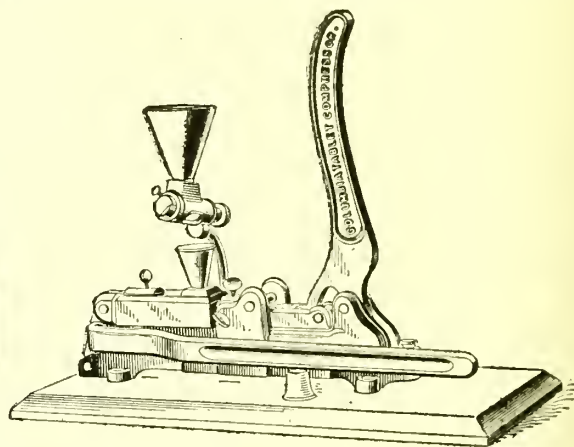
At the request of Mr. GUTTRIDGE, the General Secretary, Mr. T. H. WARDLEWORTH, gave a brief description of the chief points of pharmaceutical interest possessed by the different specimens. In the course of his remarks he alluded to two plants, in close proximity to each other on the table, which had indirectly affected commercial value strangely—namely, *Hevea brasiliensis* (Pará rubber-tree) and *Cephaelis Ipecacuanha*. The natives had found that collecting Pará rubber had been more remunerative, and had neglected gathering ipecac; consequently supplies of the latter had become scanty. No doubt, now that the value of Brazilian ipecac. had risen so enormously, the natives would return to their old occupation, and supplies would soon be forthcoming. Mr. Guttridge also showed to the meeting specimens of the seeds of *Kickxia africana*—a rubber-yielding tree—which were frequently adulterated with strophanthus-

seeds, as they bore a close resemblance to the *kicksia*-seeds. The Secretary congratulated the Association on the interest Mr. Guttridge showed in pharmaceutical botany. During the year he had successfully cultivated, among other things, the bottle-gourd (*Lagenaria vulgaris*), the common yam (*Dioscorea sativa*), the Egyptian loofah (*Luffa ægyptica*), and sea-island cotton.

Mr. W. PARRY during the evening exhibited the

COLUMBIA TABLET-COMPRESSOR

for use by retail-druggists. This is an apparatus for which Messrs. T. Christy & Co., 25 Lime Street, E.C., are agents. Each part of the powder to be compressed is put into the



hopper, and the lever, which is shown in the figure standing up, is pressed down, the degree of compression being controlled by a gauge which retards the lever. After compression the tablet is ejected by a straight lever, which is shown at the side of the figure.

Manchester Pharmaceutical Association.

At the last meeting of the above Association, as briefly noted in our last issue, Mr. J. HOSEASON read a paper on

STANDARDISATION-PROCESSES OF THE B.P.

His suggestions and criticisms included the following:—

Acidum Carbolic, and Liquefied Carbolic Acid.—The addition of a quantitative test—e.g., bromine and thiosulphate titration.

Acid. Phosphoric.—The lead-oxide test, as a quantitative method, might have been replaced with advantage by the usual phosphate-determination—viz., magnesium pyrophosphate. In the present test other acids (with the exception of HNO_3) and salts occurring as impurities would be estimated as H_3PO_4 .

Ammonium Phosphate is estimated by the magnesium test, but sodium phosphate is not. Why?

Alkaloids.—The salts of quinine and morphine are quantitatively determined, but in the case of all the other alkaloids and their salts no process of estimation is given. These and preparations from them should answer to suitable volumetric tests.

Ammonium Carbonate.—The ordinary titration-method is to use excess of normal acid, and bring back with decinormal alkali. This is undoubtedly accurate, whereas the present test is fallacious, especially in the hands of an unskilled operator.

Spt. Ammon. Aromat.—The quantitative tests are incomplete. In the Pharmacopœia total ammonia is determined by acid, and a minimum limit is fixed for ammonium carbonate; but there may be no free ammonia present, although it answer the test. The following process is suggested:—(1) Determine total ammonia; (2) add excess of BaCl_2 , filter into excess of decinormal HCl , wash the precipitate with 3 quantities of distilled water, add the washings to the decinormal acid, and finally titrate back with decinormal soda. A simple calculation gives us the correct amount of free ammonia and carbonate. These should vary within small limits.

Arsenic-preparations.—Arsenic iodide and liq. hydrarg. et arsen. ioidid. Suitable processes for their quantitative determination are necessary.

Iron Arsenate.—Therapeutically of most value for its arsenic-content, yet the ferrous iron is estimated whilst the arsenic is not.

Sodium Arsenate.—The method by magnesium pyroarsenate is distinctly a better method than by precipitation with lead acetate. In the latter test the presence of free acid or ammonia vitiated the result.

Belladonna.—Mr. HOSEASON's experience in regard to the non-evaporation of alcohol in the assay-process coincided with that of Wilson. He found the loss due to alcohol to be from 1 to 2 per cent. of the total alkaloid present. In working with belladonna he found that less tendency to emulsification took place if the first additions of chloroform were rotated gently and withdrawn. The washing of the chloroformic solution he found was quite unnecessary, and, further, that whether assayed by the B.P. process (alcohol free) or Wilson's method, the analytical results are substantially the same. Mr. HOSEASON took objection to the B.P. method of titration, suggesting the use of baryta or lime-water diluted to decinormal strength, instead of centinormal soda. The end-reaction was much sharper (due to the absence of carbonate), and he also suggested hæmatoxylin as a preferable indicator.

Ext. Cinchona Liq.—A limit of variation, based on the average proportion of mixed alkaloids found in cinchona, should be allowed.

Cantharidis.—The preparations of the B.P. might well have been made from a standardised fluid-extract.

Coca, Jaborandi, and Calabar Bean.—The fluid extracts of these drugs might have been standardised as far as total alkaloid.

Ipecacuanha Assay of the Fluid Extract.—This is one of the most unsatisfactory in the Pharmacopœia.

Jalap-extract.—No definite quantity of resin was required, and an assay might be added with advantage.

Lead Salts.—The estimation by total precipitation was unsatisfactory, but by precipitation from neutral oxalate by permanganate correct results were obtainable.

Magnesium Salts.—The sulphate was estimated, but the oxides and carbonates (more likely to be variable) were not. It was suggested all should be converted into sulphate, and estimated as pyrophosphate.

Potassium Permanganate is estimated by oxalic acid. The latter is not official, neither is it a substance that could be taken as a constant.

Pepsin.—The B.P. process of assay was inadequate. Nothing short of a method for assaying the peptone formed under given conditions of time, dilution, acidity, and agitation should have been inserted. Under the present test solution is taken as digestion. The conversion of albumen into syntonin is independent of pepsin. A good method for the determination of peptone is still a desideratum.

Scammony-root.—Jalap is required to contain 10 per cent. of resin, and scammony 70 per cent. of resin. This root, he thought, should also conform to a standard.

Strophanthus-preparations might have well been made from a standard fluid extract. Barclay had published an interesting paper showing the variation of commercial specimens, and suggested a very easy and apparently accurate means of determination. The pharmacopœial authorities, however, seem to have overlooked it.

Mr. GRIER read a paper on

THE PHARMACY OF THE B.P.

Mr. Grier in his paper drew attention to the nomenclature of the book, and wondered at thymol, menthol, chlorate, &c., being still treated as indeclinable. After criticising some of the names used for chemical substances he expressed the opinion that the alterations which had been made in the process of exhausting drugs were distinct improvements on what had gone before. Mr. Grier thought the term liquor should not be applied to such things as liq. calumbæ, but reserved for solutions of definite substances. Cold reprecipitation would be, he thought, more suitable for such preparations as ext. coca liq., as cocaine was readily decomposed by heat, and this process could with advantage be extended to other liquid extracts. Exhaustion with weak alcohol and

evaporation *in vacuo* would be a better method for ext. anthemidis. The process for acet. ipecac. was rather roundabout. Wines should have been detannated, or a weak alcohol used in place of wine, as recommended by the U.S.P. Committee. Loss of spirit in tinctures due to evaporation during filtration might cause the final products to vary considerably. Indiarubber-solution should, he thought, be made up to a definite volume on account of the volatile nature of the menstruum. Liquid extracts of rhubarb and senna should, Mr. Grier went on to say, be made official for the preparation of the respective syrups. On account of the slight solubility of calcium phosphate he would prefer teased filter-paper for preparing the aromatic waters. Pil. ferri, now that dried sulphate of iron was used in it, had a tendency to crack.

Mr. Grier exhibited a large number of specimens of preparations both of the 1885 and 1898 Pharmacopœias, for the purpose of comparison.

Mr. KEMP (who presided) thought there was room for a good discussion on the valuable points brought forward, and, answering his invitation, Mr. FRANKLIN said a liquid extract of cantharides would be valuable. Mr. BATTLE and Mr. WALTON also spoke briefly.

Mr. KIBBY said if standardisation-processes were made too elaborate they would either never be undertaken at all or would be scamped by the retailer, and even in a wholesale house might not be perfect. The present Pharmacopœia had thrown into the hands of the manufacturer a great many things which should be made by pharmacists themselves, and that was a matter which he deplored. Liquid extract of belladonna occupied a man seven or eight days. A retailer ought not, however, to be deterred from making such extracts himself. It was very desirable that British pharmacists should get into closer contact with the Committee of the Medical Council.

Mr. KEMP said some of the changes of nomenclature in the new Pharmacopœia had been coming on for years. He was afraid that if they went much farther in the standardisation of pepsin the process would become too elaborate for the ordinary chemist.

Mr. HOSEASON, in reply, said if a man bought 20l. worth of plaster he ought to be able to test it. Articles should be standardised as far as they could. There were hundreds of men who could do the work, but who would not.

Mr. LANE said belladonna-plaster should contain so much alkaloid per square inch.

Mr. GRIER also briefly replied.

Bradford and District Chemists' Association.

On November 13, Dr. C. E. WADDINGTON delivered a lecture to the members of this Association on "Nerves," with lantern and microscopic illustrations. After remarking on the simplest form of animal life, the amoeba, the lecturer said that nerves consisted of cells, in which protoplasm was the sensitive part. The nerve-fibre in the centre is a very fine thread, called the axis cylinder, which runs along the whole length of the nerves. This axis cylinder, except at its origin and termination, is covered by a medullary sheath, or the white substance of Schwann—a white substance of a peculiar fatty nature. Certain constrictions occur at intervals, called the nodes of Ranvier. These are supposed to allow the percolation of lymph to nourish the axis cylinder. The nervous system is divided into voluntary and involuntary nerve-fibre. The voluntary consists of brain and spinal cord, while the involuntary consists of ganglia. Voluntary nerve-fibre ends in muscle or skin, while the involuntary ends in intestines, blood-vessels, heart, and lungs.

A vote of thanks for the treat the doctor had given the Association was passed, on the motion of Mr. SILSON, seconded by Mr. HARVEY, of London.

The Western Chemists' Association

had their annual dinner at the Café Royal on Wednesday evening, the retiring President (Mr. J. H. Matthews) in the chair. The company numbered about sixty. The toast of "The Western Chemists' Association," proposed by the CHAIRMAN, was replied to by Mr. HARRINGTON, the President-elect. In the course of his reply, Mr. Harrington alluded with satisfaction to the suggestion that the W.C.A. should invite the Pharmaceutical Conference to London in

1900, and should organise the entertainment of the visitors. He urged that chemists all over London should be invited to join their Association.

The CHAIRMAN next proposed "The Pharmaceutical Society," to which the PRESIDENT (Mr. W. Hills) replied. He complimented the W.C.A. on their loyalty, and thanked them for the excellent service they had at times rendered to the Society. Referring to recent "important happenings in the pharmaceutical world," he claimed that credit was entirely due to the Society for the Pharmacy Acts Amendment Act, and to a large extent for the successful opposition to the Poisonous Substances Bill. He would like to refer to what took place in the House of Lords towards the end of the Session. When the third reading came on, both the Lord-Chancellor and Lord Herschell spoke of the anomaly which existed in the practice of pharmacy by limited companies. This caused much excitement in the ranks of pharmacy, and quite a flutter in the tents of the corporations. Lord Hardwicke, with whom he had many conversations on the subject, very wisely asked the Lord-Chancellor to frame an amendment to meet the case, and when this was written it was found that it could not afford much satisfaction to the trade, but only seemed to legalise the carrying on of pharmacy by companies. He therefore considered they did wisely in asking Lord Hardwicke to ask the Lord-Chancellor to withdraw his amendment, and in that opinion he was sure he had the majority of the trade with him. They had been told, by one organ at least, that their action on this point was unworthy, but he did not think that organ always represented the feeling of the trade. He had many pleasant interviews with the Lord-Chancellor on the subject, and said the Lord-Chancellor strongly advised, first, that only such propositions in regard to companies should be put forward as were likely to receive the support of Parliament; and, secondly, that the public had a right to know that their medicines were being dispensed by qualified persons. Personally, he (the President) was utterly opposed to company-pharmacy. It was contrary to the spirit of the Act and a distinct disadvantage to the profession of pharmacy. He was not quite correctly reported at the last Council meeting, when speaking on the Nottingham resolution. What he said was, that although a resolution had been unanimously passed calling upon the Society to deal with the companies question, some of the speeches hardly warranted the resolution. Some of the gentlemen had stated that it was impossible to prevent company-trading. He recognised that things were getting worse and worse. Companies were increasing their position, and, unfortunately, the Pharmaceutical Society had no means of counteracting this state of things. It was possible that the Government might next Session bring in some measure dealing with companies which may give the Society an opportunity. They might, of course, draft a Bill themselves, making it illegal for companies to practise pharmacy. Such a Bill would meet with great opposition in Parliament, though, he thought, if it were possible for him to have half an hour with every M.P., he could convince him that it was in the interest of the public. The opposition to company-trading, to be of any use, must be retrospective; but the House of Commons had strong views on the subject of existing rights, and if a suggestion of this kind were made there would be a strong feeling that all the companies then in existence should be placed on the register. If they had 90 per cent. of the trade with them these objections might be overcome. Lastly, they might draft a Bill regulating company-trading, requiring every company to name their registered managers. Regulations of this kind, however, were contrary to his own ideas, and would be opposed by their own friends. He was inclined to think it might be better to leave the drafting of Bills on the company-question in abeyance until the next Parliamentary Session, so that they might be better able to gauge the exact views of the trade.

Mr. F. W. GAMBLE (President of the Chemists' Assistants' Association) replied to the toast of "The Visitors."

Pharmaceutical Society of Ireland.

At Dublin, on Monday last, a lecture on "Plants and Insects" was delivered at 67 Lower Mount Street by Pro-

fessor F. W. MOORE, M.R.I.A., Royal Botanic Gardens. There was a large attendance. The President, Mr. Robert J. Downes, occupied the chair. The lecture was illustrated by a series of slides thrown on the screen by a limelight-apparatus, which was worked by the Vice-President, Mr. G. D. Beggs. The lecture was full of interest; but it would be useless to try to abstract it, and even if printed in full it would fail to explain itself without the illustrations.

The Aberdeen Junior Chemists' Association.

THIS Association opened its winter work, on November 11, with a smoking-concert, at the Prince of Wales's Hotel, Mr. C. Forbes (Vice-President) in the chair. The members, we are informed, responded heartily to a number of patriotic songs, and the meeting concluded, according to the report sent to us, with a vote of thanks to the Chairman "and a collection for the waiter."

Spectacle-makers' Company.

Successful Candidates for Diploma as Opticians.

THE following have passed the examination with distinction in the following order:—

- | | |
|----------------------------|--------------------------|
| 1. Lionel Laurance, London | 4. R. J. Truscott, Tenby |
| 2. W. A. Dixey, London | 5. A. E. Wood, London |
| 3. W. T. Overstall, London | |

The following have also satisfied the examiners:—

- | | |
|---------------------------------|---------------------------------|
| Aitchison, J., London | Marlow, J. H., Harrogate |
| Bateman, F. W., London | Marsden, R., Preston |
| Bond, R., Morecambe | Moles, R. S., London |
| *Bunker, C. J. G., London | Mumford, L., London |
| Butterfield, H. H., Bradford | Overstall, J., London |
| *Caesar, Julius, London | Oxbrow, A. W., Norwich |
| *Campkin, F. S., Cambridge | Palmer, R. W., London |
| Cave, S. A., Deal | Percy, W., London |
| Chalmers, R., Newcastle-on-Tyne | Rankin, R., Kilmarnock, N.B. |
| *Cooper, F. R., Manchester | Read, F. J., Bradford |
| Cornell, H. C., Maidstone | *Ritson, F., Carlisle |
| *Cornish, J. R., Tottenham | Rossiter, A. T., Canterbury |
| Crowhurst, H. A., Sheffield | Selby, J., Nottingham |
| De la Cour, G. H., Chatham | Smith, E. T., Huntingdon |
| *Dixon, E. R., Leeds | Spiegelhalter, E. K., Malton |
| Ellis, G. E., London | Tilley, J., Manchester |
| *Francis, A. L., Wrexham | Troulan, Miss F. S., Torquay |
| Green, F., London | *Turner, A. R., Crewe |
| Harris, A. T., London | *Turtle, W. G., Chatham |
| Hayden, E., Great Yarmouth | Walmesley, A., Northampton |
| Heywood, E. A., Leeds | Ward, J., Kirkham |
| Holland, C. L., Birkenhead | Werner, C. H. F., Australia |
| *Horsey, F. S., London | Wood, A. A., London |
| Hunt, J. F., Hull | Wood, J. J., Liverpool |
| Jameson, W. R., London | Wood, W. R., London |
| Knapton, E., London | *Woolley, S. W., London |
| Lyon, H. M., London | *Wright, T. H., Leeds |
| Mackinney, F. W., London | Young, J. B., Newcastle-on-Tyne |
| Maker, T. M., Harrogate | |

The names to which an asterisk is prefixed are chemists.

The next examinations of the Company will be held on the 1st, 2nd, and 3rd of March, 1899.

ETHERION.—Sir W. Crookes suggests that Mr. Brush's etherion is water-vapour, and the proof to that effect seems conclusive.

By an order, appearing in a recent edition of the *Netherlands Gazette*, sodium acetate and calcium acetate destined for dyeing purposes and printing of materials are, under certain conditions, exempted from import duties in the Netherlands.

"**PHARMACEUTICAL FORMULAS.**"—Mr. James Mayne, F.C.S., late analyst of the City Council of Sydney, writes:—"Without doubt you have, by the publication of this book, placed pharmacists throughout the empire under a deep obligation."

Correspondence.

In writing letters for publication correspondents should adopt a concise, but not abbreviated, style. They are requested to write on one side of the paper only. Letters, with or without a nom-de-plume, must be authenticated by the name and address of the writer. Queries should be written on separate pieces of paper, and the regulations printed under the sections to which they apply should be strictly observed.

The Dewsbury Discussion.

SIR,—We wish to correct the report of the above meeting, published in your issue of November 12. On page 797, Mr. Glover is reported to have said, "Perhaps they all stocked 'Hall's orange-and-quinine wine,' protected at 10d." As there is no preparation bearing the name of "Hall's orange and quinine," it follows that it cannot be protected. The only preparation of orange-and-quinine wine prepared by us is put up with the chemist's own name upon it. Mr. Beecham writes us this morning stating that Mr. Glover never mentioned our name at the meeting.

We trust you will correct this, as the report as published by you is calculated to do us harm.

Yours truly,

STEPHEN SMITH & CO. (LIMITED.)

London, November 12.

The following letter has been sent to the Secretary of the Dewsbury and District Chemists' Association:—

"St. Helens, November 15, 1898.

"SIR,—I have looked through my reporter's transcript of your meeting of November 7, and I now beg to address you thereon.

"As I anticipated, when asking your permission to send a reporter to take verbatim notes, that a reliable record might be secured, his attendance was objected to by Mr. Glyn-Jones. The passing of your first resolution does not alter the fact, as your chairman pointed out, that the report was a correct one; but you are probably not aware that the report was not sent out to the trade until after it had appeared in the trade papers, by which time it was common property; but why this flutter in the dovecote when one of the P.A.T.A. letters printed with the report says—'It will be interesting to yourselves as well as to the whole trade in general'?

"Your second resolution I must estimate at its true value. It was dealt with by twenty-four gentlemen, many visited by Mr. Glyn-Jones before the meeting, out of a district in which, so far as I can gather from my directories, &c., there are several hundreds of retailers of Beecham's pills. I cannot think that after reading the facts given by Mr. Rowed and Mr. Glover, not one of which has or can be refuted, that any level-headed business man, either in or out of the West Riding of Yorkshire, would expect me or any proprietor of an old-established article to be influenced thereby. I now commend to the consideration of your members, and to the attention of the trade generally, the following extract of a letter received by me:—

"Cheltenham, November 7, 1898.

"It is quite correct that we do not intend putting our new preparation, 'Larola,' which we are bringing out, on the protected-list, as we consider the retail-chemists have not acted fairly by us in the matter of substitution and imitation, and that all the benefit is being secured by them, and none by us, by keeping our goods out of the hands of the cutters. It has been endless trouble and worry to us since we joined the Association, and still no one is satisfied.

(Signed) "M. BEECHAM & SON.

"I have much more information which justifies the course I have adopted, and which confirms the opinion I have long held, that the 'good-will and support' of a certain section of the trade is an unknown quantity.

"I regret this controversy has not been altogether a pleasant one, but I thank you (although I find it was at the instigation of the Secretary of the P.A.T.A.) for inviting me to explain myself, and now that I have done so I trust I shall be allowed to conduct my business without the inter-

ference of any individual who knows nothing about it. I can assure all retailers that I will do what lies in my power to make handling my goods a source of profit, while, at the same time, I cannot sacrifice or cripple my business, which, owing to the competition of every conceivable form it has to contend with, takes a vast amount of money annually to maintain.

"Yours faithfully,

"THOMAS BEECHAM."

SIR,—It seems to me that Mr. Beecham did not get quite the consideration to which he is entitled in the discussion that took place on Mr. Rowed's paper at Dewsbury last night. It is much to be regretted that Mr. Beecham does not see his way to place his pills on the P.A.T.A. list, and so ensure a reasonable profit to the retailer, but one cannot help realising that there is much force in Mr. Beecham's arguments that a sharp advance from 9½d. to 1s. would be resented by the general public and would have a tendency to chill his business.

Not many of us conduct our businesses with purely philanthropic motives, and to me it is not a matter of surprise that Mr. Beecham should hesitate to take a step which he has decided would be detrimental to his business. I take it that Mr. Beecham is to some extent in sympathy with the cry for better profits (whether from business or other motives does not matter)—first, from his having so far been an annual subscriber of 5l. 5s. to the P.A.T.A., and, secondly, from his endeavours to arrange mutual local agreements.

I certainly gathered from Mr. Rowed's remarks on October 20 that his firm were quite willing that Beecham's pills should be retailed at 1s. per box, but that they desired the charge to be made by easy stages, and not at one bound.

Of course, I agree with all the speakers last night that the present profit is unsatisfactory, and that Mr. Beecham cannot expect the goodwill of chemists whilst it so remains; but I think it is rather a mistaken policy to endeavour to shove any one method down his throat, and irritate him if he does not happen at once to see the value of that particular scheme. The P.A.T.A. has done, and is doing, a valuable work, and certainly deserves the support of every chemist in the kingdom. This Association has decidedly pressed home to the large proprietors the necessity of more consideration for the average chemist, but whether the result is inclusion of particular articles in the P.A.T.A. list, or a private arrangement after the style of Messrs. Elliman, is immaterial, provided that a reasonable profit is guaranteed.

I would like to suggest to Mr. Beecham that he should make 10½d. the minimum selling-price, the face-price, and the advertised price, and reduce his wholesale price to 8s. 9d. per dozen, which, I believe, used to be the cost years ago.

I am, yours faithfully,

Ossett, Yorks, November 8.

JNO. W. CUSONS.

SIR,—At the recent Dewsbury meeting Mr. Glover, in his reply to Mr. Jones, said:—"Mr. Beecham has had letters from all parts of the country thanking Mr. Rowed for his straightforward paper." He read a quotation from one letter and one only, and that from a Mr. Robertson, Fraserburgh. Where is Fraserburgh? Who is Mr. Robertson? And what is Fraserburgh's condition so far as cutting is concerned? If we were to make a journey to the North Pole we should pass Fraserburgh on the north-east corner of Aberdeenshire. There are five chemists, Mr. Robertson being one; there are no Inmans, Boots, or Days—no cutting-stores of any description. Beecham's pills are sold at 1s. per box, and all other patents at accordingly good prices.

Now, Sir, this is what I complain of. Mr. Robertson (who gets a fair profit on Beecham's goods) writes supporting Mr. Beecham's actions in frustrating the attempts of other less fortunate chemists to obtain the same remuneration as he can obtain without the help of Mr. Beecham or the P.A.T.A. Surely the testimony of a man who can have no grievance so far as profit goes should have no weight with either Mr. Beecham or the P.A.T.A.

When a big cutting-store opens in Fraserburgh and sells Beecham's pills at no profit, will Mr. Robertson still hold the same opinion, and gladly adapt himself to circumstances by also selling at cost? Then, and not till then, should he be qualified to give an opinion.

Yours truly,

FAIR PLAY. (97/69.)

SIR,—As you have published your report of the Dewsbury meeting, will you kindly grant me a little space for a few remarks thereon? Those of my fellow-members of the Dewsbury Association whom I have seen agree with me, but I cannot speak for all, as I have not had time to interview them, having to stand eighty hours a week behind the counter in order to procure bread for those who, through no fault of their own, have to depend on a struggling chemist to fill their hungry maws. As I am expressing the views of others besides myself, I will first of all say that we do not look upon Mr. Glyn-Jones, or any other man, as a redeemer—we are too far gone for redemption—but we do look upon Mr. Jones as the representative of an Association which has our sympathy and support, just as our sympathy and support would go out to any organised effort to ameliorate the present gloomy condition of things. We are by no means satisfied with the success of the P.A.T.A.; but if it has not exactly answered our expectations, that is no reason why we should either withdraw our support or damn it with faint praise. Mr. Beecham's representative showed us that, however unsuccessful the P.A.T.A. might be, it was still well hated. Some of us think it has more to fear from thoughtless partisans than from honest foes. A letter has been unfortunately made very prominent during the discussion at Dewsbury. The letter is one published in the *Anti-Cutting Record*, and signed "A Northern Chemist." It advocated reprisals on the manufacturers which are more likely to rebound on the retailers. Mr. Jones endeavoured to defend that letter. Is there any justification of it possible? Are fair play, ethical rectitude, or broadmindedness conspicuous in it? One can sympathise with "Northern Chemist," warped and twisted by outrageous fortune, scarce knowing where to turn and how to make an honest penny, and retaliating with bitter aloes on the pill-king. It is a pity that Mr. Beecham should take so much notice of a letter which surely cannot meet with the approval of any right-thinking chemist in the kingdom. He should have treated it with calomel. We are apt to forget that it is not the manufacturers who are to blame for the deplorable condition of the trade, but men from our own ranks. To retaliate on the wrong persons is simply to imperil the success of any attempt to bring them into line with any scheme of protected profits. Either the P.A.T.A. is a practical business-like plan or it is not. The average chemist is in the position of Chevalier's coster "I don't know where 'e are"—and amidst a multitude of counsellors he sees no guiding star, but utter darkness and despair.

Barley.

R. BROADHEAD.

Small Retailer (94/60) writes to ask Mr. Beecham if, as he fears the result of the retail-price of his pills being raised, he could not reduce his own price so as "to divide a little of his annual British return among his less-favoured brethren." We do not print this letter in full, because we cannot think that chemists generally wish to bring the question of charity into the argument.

SIR,—From your interesting report of the meeting of the Dewsbury Chemists' Association, I gather that a certain Mr. Glover had quite a lot to say about "Frog in your Throat"; indeed, seems to have displayed quite a fatherly interest in that article. Mr. Glover informed the Dewsbury chemists that the P.A.T.A. had helped the sale of "Frog." I don't know how he should know anything about that, but doubtless the Association will prize his testimonial for what it is worth. He made that statement, though, as though it was some kind of a reproach; but if it is not to help the business of its proprietary, wholesale, and retail members, what is the P.A.T.A. for?

I would point out to Mr. Glover, though, that the principle of profit-protection (which we adopted from our start here, even before the days of the P.A.T.A.) has certainly helped the sale of "Frog," and that, in the words of the resolution of the Dewsbury chemists, we have found "that the P.A.T.A. affords the readiest and most effective method" of carrying out that principle.

In pitching upon "Frog," however, as the particular item in the P.A.T.A.'s list about which to make the above statement, Mr. Glover was most unfortunate, for, of all the items on its list, "Frog in your Throat" was, and is, the one that least requires the Society's aid for the protection of its retail

selling-price. Before the days of the Association it had established itself both with the trade and public as a "face value" article. From the start and till to-day every box we sell to the retailers is sold under an individual agreement as to retail-price. Mr. Glyn-Jones has himself stated that it was his observation and experience of the success of "Frog's" non-cutting agreement that gave him the idea of an organised combination against cutting in the drug-trade—the idea which his keen intellect and inexhaustible energy has developed into the P.A.T.A. of to-day.

Mr. Glover charges "Frog in your Throat" with being a "new article." Well, myes, perhaps so, comparatively speaking, but if he will only be patient it will get over that in time.

As regards "the man he saw last week," I can give Mr. Glover a hint which may enable him to be useful if he comes across that "man" again, or any other man anywhere who has any "Frog" in stock. I can, and will, make it quite unnecessary for the "man" to offer "Frog" to the trade, by enabling him to sell it to the public at a handsome profit, which is a matter Mr. Beecham seems to find pretty hard to accomplish in connection with his goods.

Yours truly,

J. E. GARRATT.

Oil of Star-anise.

SIR,—The information given in your last week's number after the quotations for star-anise oil is not correct, and shows how poorly informed are the importers on this produce. There is no star-anise oil distilled from flowers; all the oils, with no exception, are distilled from fruits. Here is, very likely, where the error stands:—After the general crop, which begins in July and terminates about the end of October, there are two small crops, the first extending over December-January, and the second over April-May. The inhabitants name the oil of these two crops "tú-quí" = oil of flowers, although this oil is not at all distilled from the flowers. It is obtained for the first crop by distilling the early fruits, which are completely out for December-January. The trees are thus relieved, and this first crop allows a quicker growth to the other fruits. The second crop is the produce of the distillation of a certain number of fruits which have attained their full growth, and to which are added the fruits thrown down by the north wind, blowing hard at that time of the year. Therefore, this so-called "oil of flowers" sold in London is only ordinary oil distilled from the fruits, but of inferior quality though pure.

Yours faithfully,

Paris, November 15.

J. L. SIMON.

[M. Simon's recent investigations in China on the manufacture of star-anise oil (see *C. & D.*, October 22, page 674) qualify him to write with authority on this subject. We may state that a well-known Leipzig firm mentions the flower-origin of the peculiar oil; but the chief interest of the matter is that the liquid oils were suspected to be adulterated with petroleum, and it transpires that nothing in the nature of an adulterant has been added to them.—*ED. C. & D.*]

A Little Appreciation.

SIR,—I find your "Exchange Column" of special value for buying and selling stock. The past few months I have used it three times. Please note results:—

1. I had a few dozen remaining of a well-boomed proprietary, but saw the sale here was fast going "off." Advertised same at a fraction below cost. Result, fifteen offers, three of which actually enclosed cheque.
2. I wished to buy a second-hand copy of a scientific book. Offered my price, and received thirteen replies, so was suited thirteen times over.
3. I held too large a stock of a certain proprietary food, and, finding sale rather slow, offered some dozens at a slight reduction below best terms. Received an order, with cheque enclosed, for the whole quantity, and another half dozen offering to send cheque on receipt of goods.

Comment is needless.

Yours truly,

50 Broad Street, Fraserburgh.

J. A. ROBERTSON.

A New Poisons Bill.

SIR,—I think the Pharmaceutical Council neglected a duty each time they have assembled since the defeat of the

Government's Poisons Bill, in not passing the formal resolution declaring carbolic acid a poison, and presenting the same to the Privy Council for its sanction.

After the feeling found to exist in the House of Commons, I think it unlikely that the P.C. would persist in their refusal to make that acid a poison by law; but if they did refuse, the coroners and the public press would be too strong for them and force them to give way.

H. H. (97/23.)

Dispensing Notes.

This section is intended for the elucidation of dispensing difficulties. Subscribers and their employes may contribute to it, criticising any of the following notes or contributing notes on prescriptions which they have found to be of unusual interest.

Myrrh Gargle.

[See Minor candidate's experience at the October Minor (C. & D., October 22, 1898, page 677).]

SIR,—In perusing "J. S.'s" experience at the Minor, and noting his remarks *re* gargle of alum, acid. sulph. dil., tr. myrrhæ, I would like to know how he would dispense it to prevent separation of myrrh and make a presentable gargle. I may state that during the winter months we have this prescription frequently, and have tried it in every conceivable manner (without the addition of any foreign matter), and have invariably failed to prevent coagulation of myrrh.

His reply through the medium of your valuable paper will give light on this matter to

Yours sincerely,

LUX. (79/27.)

Ichthyol-precipitate.

SIR,—I have had a difficulty in dispensing the following prescription:—

Zinci sulph. ...	...	...	...	...	5j.
Ichthyol. ...	...	...	...	...	5ij.
Cocain. hydroch. ...	...	...	...	...	gr. x.
Aq. destil. ad... ..	...	...	...	...	5vj.

Ft. lotio.

On mixing, a tough precipitate is thrown out, no matter in what order it is done. Perhaps some of your readers will give their opinions on the matter, and throw a little light on how to best prevent or diffuse the precipitate.

Yours,

MICA PANIS. (9/29.)

Deliquescent Powders.

SIR,—To-day I have had presented the following prescription to dispense, written by an eminent Birmingham physician:—

Potass. iodid. ...	...	...	...	gr. x.
Calcii chlorid. ...	...	...	...	gr. ij.

Ft. pulv. j.

Perhaps some of your readers can tell me how this should be dispensed.

Yours faithfully,

APPRENTICE. (95/7.)

[Perhaps the eminent physician would let you put these powders in cachets.]

Menthol-thymol Pills.

SIR,—How should the following prescription be compounded?—

Ext. bellad. ...	...	...	...	gr. ss.
Menthol ...	...	...	...	gr. j.
Thymol. ...	...	...	...	gr. j.
P. saponis ...	...	...	...	gr. ij.

M. Ft. pil. Mitte tales xxiv.

Sincerely yours,

HIBERNIA. (81/20.)

[The liquid produced by the reaction of the menthol and thymol will need some good absorbent, such as kieselguhr or powdered liquorice. You would be justified in omitting the scap, or the pill will be too large for the patient's liking.]

Miscellaneous Inquiries.

We reply to subscribers and their employes only upon subjects of interest to other readers generally. When more than one

query is sent write each on a separate piece of paper. When a sample accompanies a query full particulars regarding the origin and use of the sample must be given, and it must be distinctly labelled. Queries are not replied to by post, and those sent anonymously are disregarded.

69/13. *Pickles.*—The method of Pickling Tomatoes is to first pour over them hot brine and after two days drain, wipe dry, and place in jars, and fill up the jar with hot spiced vinegar. The spiced vinegar is made by simmering for an hour the following bruised spices in 1 gal. of vinegar: Ginger 6 oz., black pepper 3 oz., allspice 2 oz., cloves $\frac{1}{2}$ oz.

76/57. *Studley.*—We think your customer could get over the difficulty of the fluoric acid used for dulling the glass beads which form the heads of hat-pins spoiling the steel pins by first greasing the steel. A better plan would be to stick the pins in a card-box or cushion so as to leave only the heads exposed to the influence of the acid, which in this case should be preferably gaseous—generated by warming fluor spar and sulphuric acid together.

77/74. *Manager.*—Testing oils is but a minor part of an ironworks chemist's duties. Assays of ores and samples of iron are the principal part of the work. To prepare for the position you should take a course of metallurgical chemistry at the Royal School of Mines or at your local university college.

72/43. *Caruncle.*—The Apothecaries' Hall examination takes place at the Apothecaries' Hall, Water Lane, Blackfriars, E.C. The Secretary will give you all particulars.

75/27, *Tally-Ho*; 77/41, *T. E.*—The best Reviver for Searlet Cloth is liq. ammon., which for this purpose is sold coloured red with eosin. The solution is applied with a piece of flannel or a small sponge.

69/35. *Essen.*—The application at intervals of a mild stimulant is the only treatment you can adopt for the bald place on a horse's leg. We have known success to follow a lotion made by mixing tr. canthar. (1), liq. ammon. (1), and water (4).

75/13. *Idea.*—(1) Yes, you can combine creta prep. and pot. nit. in Children's Fever-powders if you like. Give a child of six months 4 gr. of chalk and 1 gr. of nitre. (2) Blackberry-wine:—

Blackberries ...	...	...	...	4 lbs.
Sugar ...	...	...	...	4 lbs.
Lemons (grated peel and juice) ...	...	...	...	2
Raisins ...	...	...	...	1 lb.
Brandy ...	...	...	...	4 oz.
Boiling water... ..	...	...	...	1 gal.

76/39. *Beba.*—(1) Straw-hat Varnishes are made by staining a shellac-and-resin spirit-varnish with aniline dye of the required colour. As you intend manufacturing these varnishes in large quantities, it will pay you to make a few experiments to find out the best recipe. (2) Cheap Sealing-wax—See "Pharmaceutical Formulas," page 438, which you say you have.

77/42. *Gully.*—(1) We do not think your formula (aloes and amm. carb.) for Murrain-mixture a good one. The best treatment is by means of salicylate of soda (in $\frac{1}{2}$ to 1 oz. doses), or, if this is too expensive, $\frac{1}{2}$ -oz. doses of chlorate of potash. Either of these may be made in a mixture which, of course, you can disguise in any way you choose. (2) You cannot do better than put up as a speciality the Powder for Scours on page 31 of "Veterinary Counter-practice." It is a capital remedy.

89/22. *Joseph.*—It would be impossible to lay down any fixed rule as to the amount of capital you ought to have left after you have paid 250% for a business. Some people have none and succeed; others fail after starting with

thousands. You would be wise to employ an agent to represent you in the purchase of the business.

87/43. *Essential* asks for a good, quick, and easy way to take stock in chemist's shop where no stock-book has been kept. A "good" way is to take the stock properly, weighing, entering, and pricing each article; a "quick and easy" way is to guess at it. We cannot give a method which will combine the two.

98/29. *Dummy*.—The nearest carpenter is the man to apply to for wood blocks for wrapping as window-dummies.

91/51. *Vanitas*.—Your inquiry does not come within the scope of this column.

90/32. *Formalin*.—Colonel T. Davies Sewell, Clerk of the Spectacle-makers' Company, The Guildhall, E.C., will send you a prospectus of the company's examination scheme if you ask him.

91/43. *Jack*.—*Formagen* is a pulp-capping cement for stopping teeth, which is, the makers say, "saturated with formaldehyde." When the cement sets the formaldehyde is gradually set free.

83/46. *Mind* (Bloemfontein).—(1) The following are some of the chief books on the treatment of the insane:—Dr. Clouston's "Mental Diseases" (Churchill), 14s.; Dr. Campbell Clark's "Manual of Mental Diseases" (Baillière), 10s. 6d. "The Dictionary of Psychological Medicine," by Bucknell and Tuke, is a larger work in 2 vols., special subjects being treated by specialists. There is no work yet published on the treatment of insanity by animal extracts, &c. (2) For the internal working of asylums the best work is Dr. Mercier's "Lunatic Asylums: their Organisation and Management" (Griffin), 16s.

92/40. *A. B.*—(1) You can readjust the bulk of the blood-purifying mixture (Ph. F., page 544) if more convenient. It would be advisable then to increase the quantity of spt. chlorof. (2) "Diseases and Remedies" is published at 2s. 6d.

82/3. *Fowl*.—The following is a useful *Condition-powder* for Fowls, and can be sold at 6d. a pound:—

Powdered fenugreek	...	...	1 oz.
Peroxide of iron	...	...	$\frac{1}{2}$ oz.
Black pepper...	...	...	1 oz.
Bran	...	...	14 oz.

Mix.

78/28. *H. H.*—*Foot-rot Liquid*.—Your sample has a composition like the following:—

Verdigris	...	...	2 oz.
Butter of antimony	...	...	2 oz.
Vinegar	...	...	4 oz.
Turpentine	...	...	4 oz.
Water	...	...	to make 1 pint

Mix.

The bottle to be well shaken. Apply the liquid with a feather.

92/54. *Northern*.—*Foot-rot Liquid*.—The formula given in reply to "H. H." will probably suit you.

88/55. *M. M.*—*Dropsy-powder*.—Your powder has a similar composition to this:—

Pulv. scillæ	...	...	3ij.
Pulv. zingib.	...	...	3ij.
Potas. bicarb.	...	...	3iss.
Potas. bitart.	...	...	3ij.

M.

83/32. *H. A. W.*—*The Lamb-drench* is chiefly chalk. There is a little vegetable matter present which we do not recognise.

84/71. *E. E. R.*—(1) *Bait-preserving Liquid*.—This consists of formalin (10-per-cent. solution) with a little glycerin. (2) *The Headache-powder*, as used in a large school, is citrate of caffeine and sugar in equal proportions.

88/17. *J. M. S.*—*The Powder for Removing Angle-berries* from cattle is orpiment (yellow sulphide of arsenic).

Trade Report.

Notice to Retail Buyers.

It should be remembered that the quotations in this section are invariably the lowest net cash prices actually paid for large quantities in bulk, and, for crude drugs, without charges. For fuller particulars see the article "Lowest Trade Terms" in THE CHEMIST AND DRUGGIST, March 19, 1898, p. 473. C.i.f. quotations are for London unless when otherwise stated.

Buyers of essential oils are particularly requested to note that low quotations, especially for Sicilian essences, are rarely, if ever, accompanied by guarantee of genuineness.

42 Cannon Street, London, E.C.: November 17.

CHEMICAL manufacturers are busy, but Mincing Lane trade is none too brisk, and is without exceptional features. The talk about an advance in quinine still goes on, and, although manufacturers have not issued printed higher quotations, they ask from $\frac{1}{2}$ d. to $\frac{3}{4}$ d. more per oz. The position is fully referred to in this report. German camphor-refiners have followed the English advance, and another rise is expected. Cocaine is to be dearer. Nearly all the changes are towards firmness, as the following table shows.

Higher	Firmer	Lower
Ammonia sulphate	Acetone	Acid, citric
Arsenic	Antimony	Benzols
Borax	Buchu	Nutmegs
Camphor (German)	Cocaine	Oil, castor
Copper sulphate	Oil, lemon	Oil, cod-liver
Jalap	Oil, peppermint	Orris
Lime, acetate	(Eng.)	
Pepper.	Oil, peppermint	
Quinine	(Jap.)	
Shellac	Oil, star anise	

Liquid Oil of Star-anise.

The interest in this novelty is growing. In our correspondence columns M. Simon, of Paris, gives his views on the matter. In London an action has been started, we believe, on account of a firm refusing to accept delivery of a parcel of oil, the liquidity of which makes it suspicious-looking, although an analyst has declared it to be perfectly genuine. The arguments in this case, should it come before the Courts (which is doubtful), are sure to be absorbing.

Cablegrams.

HAMBURG, November 17, 11.39:—Since my letter the position of refined camphor has continued towards firmness, and to day I cannot buy below 278m. per 100 kilos. Cuminsed is also moving, 62m. per 100 kilos. being the latest price, and menthol is firm at 15 $\frac{1}{2}$ m per kilo. [1 kilo. = 22 lbs., 50 kilos. = 1 cwt., 1m. = 11 $\frac{1}{2}$ d.]

NEW YORK, November 17, 2 58 P.M.:—This market continues in an active condition, and a fair volume of business has been done since my last report. Damiana-leaves are plentiful at 10 $\frac{1}{2}$ c. per lb. On the other hand, Jaborandi is scarce and not obtainable at less than 9c. per lb. Aloin has an upward tendency and the market closes with the drug in a stronger position [cable price doubtful]. Refined camphor is advancing in sympathy with European reports and scarcity of the raw material; to-day 36c. per lb. is the price. Star-anise fruit is also moving upwards, and 34c. per lb. has been bid. Cocaine hydrochlorate has advanced to \$2.50 per oz. Ergot still retains its value, Russian being quoted at 33c., and Spanish at 40c. per lb. Aconite is scarce at 11c.

Heavy Chemicals.

The general condition of the heavy-chemical market remains much the same as last week, the main products of the alkali market being still unsettled, with declining tendency, whilst

miscellaneous articles are firm. Home demand keeps good, and all-round reports from the Clyde are better.

ALUMINA PRODUCTS are all moving well, particularly the sulphuric compounds. Aluminous cake, 45s.; aluminous ferric, 42s. 6d. to 44s.; purest makes of white sulphate of alumina, 77s. 6d. to 80s., on rails in casks. Carbonate of alumina, 37s. 6d. per cwt. Aluminate of soda, high strength, 36s. 6d. to 38s. per cwt., on rails, according to quantity. Bauxite 60-per-cent. alumina, 16s. 6d. per ton, f.o.b. Hydrate of alumina, 12l. 5s. to 12l. 10s., free on rails. Crystal alum, 4l. 10s. to 4l. 15s.; and ground, 5l. 5s. to 5l. 10s., on rails.

BARIUM PRODUCTS are in fair consumptive demand and values all round are firm. Chloride best refined crystals, 6l. 15s., free on rails, and 6l. 17s. 6d. f.o.b. Precipitated sulphite (blanc fixe), 6l. 10s. to 6l. 15s. Mineral sulphate, 37s. 6d. to 67s. 6d. per ton, according to quality. Mineral carbonate, 72s. 6d. to 92s. 6d. per ton, according to percentage. Hydrate of barium crystals, high grade, 12l. 10s. to 13l. 15s.

MAGNESIUM SALTS—Moving steadily at firm values. Sulphate (Epsom salts), 2l. 17s. 6d. to 3l. per ton. Carbonate, 37s. 6d. to 40s. per cwt.; calcined, 1s. 1d. to 1s. 4d. per lb. Chloride of magnesium, 2l. 10s. per ton. Magnesite, lump, 40s. per ton; raw ground, 98 per cent., 5l. 17s. 6d.

BROWN ACETATE OF LIME—Higher, and tendency continues upwards, present figure about 5l. 10s. c.i.f.

GREEN COPPERAS—In brisk request, and price keeps firm at 39s. to 41s. per ton, best Lancashire makes, f.o.b. Liverpool.

SULPHUR firm. Recovered, 4l. 15s. to 5l. per ton on rails. Roll brimstone, 6l. 2s. 6d. to 6l. 5s., and flowers, 7l. 7s. 6d. to 7l. 12s. 6d. per ton.

Liverpool Drug-market

Liverpool, November 16

CASTOR OIL—Slightly easier, owing to arrivals. Good seconds Calcutta has sold at 3d. to 3½d. per lb. First-pressure French has also declined slightly to 2½d. per lb. Good seconds Madras and second-pressure French are held for 2½d.

GUMS—More business this week, an arrival of 11 serons Soudan sorts selling at 67s.; and 75s. is asked for fair softish gum. Ten tons of Brazilian gum changed hands at 22s. per cwt.

ANISE, RUSSIAN—Firmly held, at 16s. to 18s. per cwt., with but little business passing.

GUINEA-GRAINS—Getting into very narrow compass, and the only holder talks of 70s. per cwt.

HONEY—This market is now quite bare of Californian, and Chilian is held with increasing firmness, values ranging from 22s. 6d. to 35s. per cwt., according to quality.

QUILLATA-BARK is becoming reduced in stock, and holders show little desire to meet buyers' views; 18l. 10s. is now asked for good sound bark.

BEESWAX—Stocks are increasing, but the demand is nominal. Chilian varies from 6l. 15s. to 7l. 10s.

CANARY-SEED—400 bags at 28s. 6d. and 29s. per quarter; good bright Turkish changed hands.

GINGER, AFRICAN—Only nominal business is being done at 18l. to 19l. per ton.

COPPER SULPHATE—Firm, at 18l. 10s. per ton for prompt delivery, and higher rates forward.

FENUGREEK-SEEDS—Firmly held at 8s. 6d. to 12s. 3d., according to grade.

American Markets.

Our New York correspondent's last letter is dated November 8, two days before last week's cable. We extract the following chief has points of interest from his letter:—Opium demoralised, price fallen to \$3.50. Quinine in satisfactory demand. Balsam Copaiba is in good supply; prime central American, 37c. per lb. Cascara Sagrada strong, and holders on the Pacific have advanced prices to 6c. Ergot, stocks are very light and demand active. Jalap, spot stock closely concentrated, and holders have advanced quotations to 14c. to 15c. Golden Seal (Hydrastis) firmly held at 50c. Holders in the growing districts offer at 48c.

German Drug-market.

Hamburg, November 15.

Our drug market has been quiet during the week, and most prices are without change since last Tuesday.

ANISE (RUSSIAN)—New crop is steady at 30m. per 100 kilos.

BALSAM COPAIBA (genuine Maracaibo) is 3½m. per kilo.

BALSAM TOLU—Quiet, at 290m. per 100 kilos

CAMPHOR, REFINED has advanced to 275m. per 100 kilos, but business has been done at 270m.

CASCARA SAGRADA firmly held, at 48m. per 100 kilos.

ERGOT OF RYE—Stocks seem to be entirely cleared out,

GENTIAN-ROOT quiet, at 34m. to 32m. per 100 kilos.

HONEY is firm, especially Californian, which is scarce.

IPECACUANHA (Rio) firm and scarce at 24m. per kilo.

KOLA-NUTS unchanged, at 35m. to 40m. per 100 kilos.

MENTHOL has advanced to 15m. per kilo.

OPIMUM unchanged, at 23½m. per kilo.

QUININE shows a very firm market, and the factories are not willing sellers; second-hand lots can be had at 28½m. per kilo.

QUILLATA-BARK firm, at 35m. per 100 kilos.

WAX (JAPAN) is a little easier; spot is held for 65½m., near delivery 64½m. per 100 kilos.

OILS—Castor and cod-liver unchanged; star-anise higher, at 15m. and 15½m. per kilo.; cajuput, 87m. per case.

Arrivals.

The following is a list of the principal drugs which have arrived in the port of London and other large ports in England from October 26 to November 16, both inclusive. The figures indicate the number of original packages (bales, casks, &c.) :—

Albumin	12	Lemon-juice	50
Aloes (Cape)	31	Lime-juice	79
Aniseed	62	Liquorice-root	2950
Benzoïn	25	Manna	14
Buchu	28	Mastic	10
Camphor (Jap.)	210	Menthol	20
Cardamoms	107	Nux vomica	2476
Caraway seed	300	Oil, anise, star	60
Chamomiles	3	Oil, castor	3469
Cinchona	883	Oil, cod-liver	613
Coca-leaves (Ceylon)	11	Oil, peppermint (Jap.)	34
Cocaine (crude)	10	Oil, rose	2
Colocyth	8	Opium	161
Croton seed	50	Orange-peel	2
Dragons-blood	3	Orris (Italian)	106
Ergot of rye	5	Quicksilver	613
Galls (Persian)	25	Rhatany	9
Gamboge	10	Rhubarb	111
Gentian	230	Saffron	1
Gum arabic	686	Sandalwood	131
Honey	324	Senna (Alex.)	19
Insect-flowers	30	Senna (Tinnevely)	540
Insect-powder	50	Soy	100
Iodine	105	Squills	10
Ipecacuanha (Rio)	67	Sulphur	672
Jaborandi	18	Tamarinds	125
Juniper-berries	394	Turmeric (E.I.)	540
Kamala	4	Vanilla	85
Kola	4	Wax, bees'	229

London Markets.

ACID, CARBOLIC—Steady. Crystals on the spot are quoted at 6½d. for 39° to 40° C., and 6½d. for 34° to 35° C. ice crystals. Detached crystals are 1d. per lb. more.

ACID, CITRIC—Quiet, at the easier price of 1s. 1½d. to 1s. 1½d. for crystals from makers, though it is possible to buy from second-hand holders at 1s. 1d. per lb. Concentrated lemon-juice is quoted at 13l. per pipe c. & f.

ACID, TARTARIC—A very dull market in which it is exceedingly difficult to effect sales. Foreign crystals offer at 1s. per lb., and English makers quote 1s. 0½d. per lb. on the spot.

ALOES—Firm generally. Zanzibar in monkey skins, ex drug-auctions, has sold at 90s. per cwt., and soft Socotrine in kegs at 75s.

ALON is quoted 2s. 3d. to 2s. 6d. per lb., according to maker.

ANTIMONY—Japanese crude is firmer at 36l. 15s. to 37l. 5s. per ton on the spot.

ARSENIC—Dearer at 19s. per cwt. ex ship for best white English powder.

BALSAM COPAIBA—The market has been cleared of the cheaper varieties, and there is no Bahia or Pará to be had in first hands. Filtered Maranham is offered at 1s. 8½d. per lb. in barrels.

BENZOIN—Siam is dull, but there is a fair inquiry for the better qualities of Sumatra, which are scarce on the spot. Some time ago the market here was glutted, and the Singapore shippers were advised to hold back supplies until the market recovered somewhat, so that further shipments may come forward soon.

BORAX has been in good demand at firmer rates—viz., 14s. 6d. for crystals and 15s. per cwt. for powder, immediate delivery. During this year the number of "outside" borax-

refiners has been increasing, and the Continental "Convention" recently met to consider what should be done. At this meeting it was agreed to maintain prices, but no agreement could be come to in regard to the outsiders. Another meeting will be held next month, when the renewal of the "Convention" will be considered, it is hoped, finally.

BUCHU.—Since the auctions one holder has sold his remaining stock of fair green leaf at 5½*d.* per lb., which figure was paid at the sales. In second hand from 6*d.* to 6½*d.* is now asked, and the best green leaves are unobtainable at 7*d.*

CAMPHOR.—German sublimers on Tuesday advanced their price by ½*d.* per lb., and a similar advance was made yesterday, making their price for bells 1*s.* 3¼*d.* per lb. in ton-quantities, the price for English being 1*s.* 3½*d.* A further rise is spoken about, as the crude market is still firm. American makers have been buying crude camphor rather liberally in the East, and this, combined with the small stocks, have strengthened the holder's hands. Early in the week 100 piculs of Chinese was sold in London at 96*s.* per cwt., c.i.f., and since then 200 piculs at 97*s.*, November-December shipment. Owing to active demand importers now quote 101*s.*, and Japanese 110*l.*, but there is no business in the latter. The exports from Hong-Kong and Canton to the Continent from January 1 to October 15 were—

	1898	1897	1896	1895
Boxes ...	13,633	22,183	18,595	18,282

CARDAMOMS.—The market is unchanged, little business passing.

Ceylon advices report that the cardamom-crop generally in the north-eastern district is likely to be short this year owing to insufficient rain. The shipments from Colombo and Galle from January 1 to October 25 were:—

	1898	1897	1896	1895
Lbs. ...	395,695	395,964	274,301	284,310

CASCARA SAGRADA.—Unchanged, at 25*s.* per cwt. on the spot for new, and 28*s.* to 30*s.* for old bark. The prices to arrive are higher—viz., 24*s.* 6*d.*, c.i.f., for new bark.

CINCHONA.—The cinchona-bark auctions, which will be held in Amsterdam on December 8, will consist of 7,391 bales and 756 cases. The stock at Amsterdam in first hands consisted, on November 15 last, of 2,743 packages Government culture and 8,628 packages private culture, including the quantity which will be put up in the auction of December 8 next. Exports from Ceylon from January 1 to October 25 were:—

	1895	1897	1896	1895
Lbs. ...	764,408	611,926	1,231,359	836,070

COCAINE.—Makers talk of higher prices in the near future for the hydrochloride, as the crude has been advanced by about 20 per cent., and leaves are scarce and the crop doubtful. The B & S brand is not quoted for the moment, agents awaiting fresh instructions. Other makers have followed suit. The last business done was at 9*s.* 6*d.*. An advance of 6*d.* is expected, but it may be 1*s.*

COLOCYNTH.—There has been some inquiry for the parcels withdrawn in auction, but so far business has not resulted; 11*d.* is asked for fair Turkey apple.

COUMARIN.—German crystals are quoted at 1*s.* 8*d.* per oz. in 16-oz. lots, with reduction on large quantities.

DRAGON'S BLOOD.—Since the auctions business has been done in a small lot of reeds, which are now held for 12*l.* per cwt. in second-hand.

ERGOT.—A fair amount of business is still passing, but parcels are also offered, although none of high class. Russian and German (baked and sifted) have sold at 1*s.* 6*d.* per lb., and for an unsifted lot 1*s.* 4½*d.* is wanted, but there are no buyers. A good lot of Spanish (baked and sifted) has sold at 2*s.* 3*d.*, and from 2*s.* upwards is wanted for other parcels.

GALLS.—The market continues firm, as all the first-hand parcels have been cleared, and second-hand holders are asking higher prices. Persian blues are now 57*s.* 6*d.*, and greens 50*s.* per cwt., which figures have been paid for small parcels. Smyrna galls are in moderate supply, but holders are asking extreme prices. At the drysaltory-auctions 50 cases of Chinese, usual shape, were bought in at 60*s.*

GENTIAN.—Although the recent arrivals have been large they are reported to be in firm hands, and it is not possible to buy good bold root under 17*s.* 6*d.* to 18*s.* per cwt. on the spot.

GERMAN MEDICINAL DRUGS.—The following are the current quotations (per cwt. c.i.f. London or Liverpool) of some of the principal medicinal drugs taken in large whole-sale quantities:—Aconite-root 35*s.*, leaves 27*s.* 6*d.* to 32*s.*; arnica flowers 34*s.*, leaves 22*s.*, root 58*s.* to 60*s.*; alkanet-root 28*s.* to 35*s.*; angelica-root 28*s.* to 35*s.*; belladonna-leaves, ordinary to good, 38*s.* to 40*s.*, root 40*s.* to 41*s.*; colchicum-root 32*s.* to 34*s.*, seed 40*s.*; henbane-leaves 45*s.*; hellebore-root 24*s.*, and taraxacum-root 37*s.* per cwt.

GLYCERIN.—General quotations are unchanged, though we understand a close offer has been made by one maker at 50*l.* per ton for 10-ton lots, less 2½ per cent.

GUM ARABIC.—The recent arrivals of so-called Persian insoluble gums per *Paran* have met with an active demand, and nearly 1,000 cases have sold this week, pale selected sort at 23*s.* to 24*s.*, and reddish and pale 20*s.* to 22*s.* per cwt.

GUMS, VARNISH.—At auction to-day the offerings were of moderate extent, amounting to 6,337 packages, including Kauri 3,150, copal 2,080, Damar 212, animi 121, besides 774 packages of olibanum, grass tree, and sandarac. There was a good demand for Kauri and copal, and nearly the whole sold at about steady rates for copal, and dearer for bush Kauri. The following were some of the prices paid:—

ANIMI.—Medium to bold fair pale and amber sorts, 15*l.* 2*s.* 6*d.* and 10*l.* 17*s.* 6*d.*; red and amber, 9*l.* 10*s.* to 9*l.* 17*s.* 6*d.*; red and weak, 8*l.* 10*s.*; chips, 12*s.* to 15*s.*

COPAL.—Good red scraped Benguela realised 5*l.* 7*s.* 6*d.*; pale hard scraped, 6*s.*; ditto, blocky, 52*s.* to 55*s.*; pale chips, 14*s.* to 23*s.* 6*d.* per cwt.; poor chips, 8*s.* 6*d.* to 13*s.*; Socotra, 14*s.* to 22*s.* 6*d.*; bright nuggets, 24*s.*

DAMAR.—Good pale pinky selected, 77*s.*; medium to bold, which was bought in at 38*s.*; 31*s.* was offered and refused; good pale grain, 32*s.* 6*d.* to 36*s.* per cwt.

KAURI.—Fine bold scraped was bought in at 11*l.*, 9*l.* 15*s.* being refused; pale white scraped, 9*l.*; chopped seconds, 5*l.* 10*s.* to 7*l.* 10*s.*; for fine brown bold, 5*l.* 2*s.* 6*d.* was refused; bold dull lump was limited at 60*s.*. East Coast chips sold at 69*s.* 6*d.* down to 56*s.*; brown earthy ditto, 45*s.*; fine dust, 25*s.* 6*d.* to 40*s.*; wet dust, 20*s.*. Medium opaque pickings, 45*s.* 6*d.* to 46*s.*; brownish ditto and part scraped 53*s.*; coated chips, 55*s.* to 56*s.*; pale dust, 22*s.* to 38*s.*

INSECT-FLOWERS.—A Trieste correspondent reports that the receipts of insect-flowers during October at that port amounted to 70,900 kilos, and the deliveries 36,700 kilos., leaving the stock at the end of the month at 207,000 kilos. against 172,800 for September. The following are the current prices f.o.b. Trieste:—Open flowers 59*s.* to 61*s.*; half-open, 66*s.* to 80*s.*; closed, 85*s.* to 89*s.*; and wild, 102*s.* to 110*s.* per cwt.

IPECACUANHA.—A fair business has been done this week in Rio at unchanged rates—viz., 9*s.* 7*d.* per lb. for wirey and 9*s.* 10*d.* for good bold root—both "natural." Cartagena is steady at 7*s.* 6*d.*

JALAP.—Dearer, sales having been made at 7*d.* per lb., and 6½*d.* for damaged.

MANNA.—The high prices last mentioned still maintain, but there has been little of the new crop sold, and higher prices are spoken of should a brisk demand set in. Our continental advices confirm this view.

MENTHOL.—Firm at 7*s.* to 7*s.* 1½*d.* per lb. on the spot, and 6*s.* 10½*d.* c.i.f.

NAPHTHA.—Solvent is quoted at 1*s.* 2*d.* per gal. for 90-per-cent., and 1*s.* 4*d.* for 95-per-cent.; crude naphtha, 30-per-cent., is 3¼*d.* naked on the spot.

OIL, CITRONELLA.—Without alteration at 11½*d.* per lb. in drums on the spot.

The shipments from Ceylon from January 1 to October 25 were

	1898	1897	1896	1895
Lbs. 1,186,394	895,858	902,578	856,618	

OIL, CASTOR.—Belgian of first pressing is quoted at 27*s.* 6*d.* per cwt. on the spot, or 27*s.* for December shipment; second pressing 26*s.* spot, ex wharf. For January-December shipment, contracts have been made at the equivalent of

24s. 6d. ex wharf. Medicinal Italian is quiet at 36s. per cwt., c.i.f.

OIL, COD-LIVER.—The sale of a line of old oil last week has sickened the market, and only small sales of 5-barrel lots are reported at 72s. per barrel spot for 1897 oil, and 80s. for 1898.

BERGEN, November 12.—The market continues in an inanimate state, with very small transactions, and it is now possible to buy best medicinal Lofoten oil at 72s. per barrel, f.o.b. The exports from Bergen up to date have been 7,300 barrels against 9,212 barrels at the corresponding period of last year.

OIL, LEMON.—Firm from Messina, though there is little doing here; for finest oil from 3s. 6d. to 3s. 9d. per lb., f.o.b., is asked.

OIL, OLIVE.—Steady, at 4s. to 6s. per gal. for Lucca oil.

OIL, PEPPERMINT.—Japanese is very firm at 3s. 6d. per lb. nominally on the spot, for dementholised, though we hear that 3s. 4½d. has been paid; the forward price is 3s. 9d.; 40-per-cent. oil is unchanged at 5s. We hear from a firm of leading agents for a Japan house that they have received a cable from their principals, intimating that they are unable to offer owing to the scarcity on the other side. In H.G.H. American oil small sales are reported at 5s. 4½d. on the spot. English oil is firmer at 28s. per lb. for good brands.

OIL, SPIKE.—Soap and varnish makers find it difficult to get all the oil they require for a year ahead, the crop having turned out to be a small one like last year's, and prices for ton quantities are firmer. For druggists' supplies the prices in tins vary from 3s. 10d. per lb. for pure to 1s. 5d. for mixed. It appears that eucalyptus oil is now replacing turpentine to some extent as an adulterant.

OIL, STAR ANISE.—Firm. A fair amount of business was done in the early part of the week at 6s. 1d. per lb. on the spot, but sellers now ask 6s. 2d. per lb. The stock in Hong Kong on October 15 was 35 piculs.

OIL, TURPENTINE.—Dearer, at 27s. 6d. per cwt., spot.

OPIMUM.—Two brokers showed opium last week. It was a mixed lot of Smyrna druggists', some of the balls being soft, and others quite hard and mouldy on the outside. It was bought in, however, at 9s. 6d. per lb., and one lot has since sold at 8s. 6d. per lb., or 1s. per unit, the morphine-content being 8 per cent. This week the market is steady, but all descriptions are dull of sale, and any business done is quite of a retail character. Some of the recent arrivals are of poor quality, and are obtainable at 10s. to 10s. 6d. per lb., which indicates 10 to 11 per cent. of morphine.

SMYRNA, November 5.—The sales for the week amount to 63 cases, consisting of 35 current and Karahissar taleqnales, believed to be for the United States, at the parity of 9s. 6d. for the former and 9s. 8d. for the latter; 5 cases selected taleqnales and Yerli ditto, at 9s. 11d. to 10s. 1d.; and 23 cases selected Holland grades, at 10s. 9d. per lb., f.o.b. terms. These prices show a decline of 6d. per lb. The arrivals of new opium amount now to 1,052 cases, against 2,726 cases at the same period of last year. The stock of opium is calculated to be now 2,253 cases (not calculating what is held on speculation), and in Constantinople 718 cases.

SMYRNA, November 11.—The market is unchanged, with transactions amounting to: 25 cases Dutch, at 10s. 8d.; 27 cases old Karahissar, at 9s. 11d. per lb., c.i.f. European ports. The arrivals up to date are 1,109 cases against 2,870 in 1897 at same date. The week's reports are unanimous in declaring that the persistent drought is beginning to cause serious anxiety. In consequence of this, many holders are observing the greatest reserve.

CONSTANTINOPLE, November 12.—The market closes this week with a moderately firm tone, and this attitude is likely to be maintained until the ultimate fate of the sowings for next year's crop is ascertained. The weather still keeps open, but more rain is required. There are no sales to report, and the price to-day for druggists' is nominally 10s. 3d. per lb., f.o.b.

ORANGE-PEEL (FRESH).—A few small lots of Seville oranges have recently been offered on the market and have fetched high prices, but matters have now been somewhat relieved by arrivals in Liverpool and London, and the fine cut fresh peel is now offered at 9d. per lb. in 1-cwt. lots. It will be next month before Seville oranges begin to come forward in their usual bulk, and prices may then be easier.

ORRIS.—Florentine-root of the new crop is lower, at 33s. 6d. to 33s. 9d. per cwt., c.i.f., and sorts at 30s. per cwt. Slow of sale here, and consumers are "full up" with it.

OTTO OF ROSE.—Some of the otto sold without reserve in last week's auctions has since changed hands at a profit.

POTASH CHLORATE.—Powder is apparently easier at 3½d. per lb., the quotation last week being 4d.; crystals are unchanged, at 3¾d. per lb.

QUICKSILVER.—Firm at 7l. 10s., second-hand holders selling at 7l. 9s. per bottle.

QUININE.—Manufacturers, both in England and Germany, have practically withdrawn their last-published quotations, and are obtaining from ½d. to ¾d. per oz. more for the sulphate than the so-called "official prices." They confine business as far as possible to orders for actual consumption—i.e., with wholesale druggists—and are not inclined to supply speculators. German makes of sulphate are nominally quoted at 10½d. per oz.; but small sales have been made at 10½d., and B. & S. want 11d. Howards' is quoted 1s and Whiffen's 11d. per oz., in each case in bulk quantities. In second hands there are sellers of German makes at 10½d., and business has been done at 10½d. and 10¾d. An early declaration by the manufacturers is expected, indeed they have practically agreed to an advance, but as the movement chiefly affects speculative buyers and sellers, and as an advance to 1s. would have the effect of unloading a considerable amount of secondhand stuff, it is not to the interests of manufacturers to show their hands, especially as they are as busy as they can be. It may also be observed that although the cinchona position is good, there is no unusual circumstance to dictate the big advance which "bulls" are working for; nor does it appear from the bark sale records of this year, as compared with last, that the manufacturers have been manipulating for a rise by buying bark more heavily. The figures are against this view. Less bark has been bought in London this year, and in Amsterdam the purchases up to the last auction were equal to 179,140 kilos. of quinine sulphate, as compared with 184,336 kilos. at the corresponding sale last year, but the purchases this month were almost 7,000 kilos. more than at the November sale of 1897. Up to the present the Amsterdam sales equal 7,288,785 ozs. of quinine sulphate, and last year at the same date, 7,231,630 ozs. These figures do not quite encourage the workers for a boom. The unit now is 4 67c. (about 1d.); last year at this time it was 7 90c. (1½d.), and quinine 1s. 2½d. per oz., so that manufacturers have the advantage now, and they are more afraid of a decline than a rise.

SALTPETRE.—The present quotations are:—British refined in barrels, 19s. 6d. per cwt.; kegs, 1s. per cwt. more. German refined in barrels, 18s. 9d., and kegs, 19s. 6d. per cwt. Bengal is firm at 16s. nominally, with buyers at 15s. 9d. Nitrate of soda is unaltered at 7s. 9d. for ordinary, and 8s. for refined.

SCAMMONY.—Qualities which do not come up to the B.P. standard (70 per cent. of ether-soluble resin) are dull of sale at 16s. to 21s. per lb. For Smyrna virgin gum-resin (70 per cent. and over), 28s. to 31s. is wanted. Holders of root are firmer in their views than buyers, so there is no business.

SHELLAC.—At auction on Tuesday the small supply of 358 cases was offered, of which some 200 sold at firm to rather dearer prices. For flat second orange of dark quality 61s. to 62s. was paid; blocky part hard, at 61s.; and fair bright TN at 65s. 6d. to 65s. Garnet in block sold at 50s., and fine button at 80s. to 82s.; blocky, 70s. to 71s.; and common, 39s. to 43s. per cwt. The demand privately since last week has been very quiet.

SPICES.—Both white and black Pepper are dearer owing to prospects of short crops, especially of Lampong and Tellicherry. At the auctions on Wednesday Cochin Ginger was dull of sale, everything being bought in except a few cases of small cut, which sold at 36s. 6d. per cwt.; Jamaica and African also withdrawn above the biddings; Japan sold at 17s. to 18s. per cwt. for ordinary rough limed to good smooth; Bengal sell's privately at 20s. per cwt. Zanzibar Cloves neglected without material alteration in quotations; Penang were freely offered at auction, and sold at 4½d. to 4¾d. per lb. for dark, at 6¾d. for ordinary picked, and at 7¾d. to 7½d. for fair picked; ordinary Seychelles and fair red Java sold at 4½d. per lb. Zanzibar Chillies quiet, and bought in at 38s. for fair red.

Japan withdrawn at 45s. per cwt. Sierra Leone Capsicums bought in at 34s. per cwt. Pimento steady, but only partly sold at $4\frac{3}{4}$ d. per lb. for fair. Mace slow: pickings partly sold at 1s. $2\frac{1}{2}$ d. per lb.; middling to good yellow, 1s. 5d. to 1s. 11d.; fine, 2s. 2s. to 2s. 3d. per lb. Nutmegs, in good supply, sold at $\frac{1}{2}$ d. lower; 115's at 1s. 1d. to 1s. 2d., 80's at 1s. 8d. to 1s. 9d., 64's at 2s. 5d. per lb. for old import. Arrowroot firm; good St. Vincent sold at $3\frac{1}{2}$ d., and fine at $4\frac{1}{2}$ d. per lb. Cinnamon sold at 7d. per lb. for hard fifths, and chips at $4\frac{5}{8}$ d. to $4\frac{1}{2}$ d. per lb. for ordinary to bold bright barky. Cassia-lignea sold at 45s. per cwt. for selected broken. Cassia-vera bought in at 36s. per cwt. Pepper dearer; $4\frac{1}{16}$ d. per lb. has been paid for Singapore black on the spot, and $5\frac{3}{32}$ d. to $5\frac{1}{32}$ d. for distant shipment. Penang white sold at $7\frac{1}{2}$ d. on the spot, and at $7\frac{1}{2}$ d. for January-March steamer. Singapore white sold at $8\frac{1}{2}$ d. for fair, at $8\frac{3}{4}$ d. for good, at $9\frac{1}{2}$ d. for fine bold, and at $8\frac{5}{16}$ d. for January-March shipment.

SULPHONAL.—The lowest price in 1-oz. tins is 16s. 10d. per lb., taking 4-cwt. lots, or 16s. 6d. in 1-lb. tins. The second-hand supply is not yet exhausted, however, but the price asked is only a fraction cheaper.

TEA.—The Indian market during the last few weeks has been very liberally supplied with sales of nearly 60,000 packages a week, but the value which Indian teas under 8d. have shown all the season has evidently been realised in the country, and figures of deliveries for October show a big increase upon those of the corresponding month of last year. With good deliveries prices have been fully maintained, and commonest teas are the turn harder, $5\frac{1}{4}$ d. being now the quotation for leaf Indians. Broken Pekoes under 10d. are still good value, though not quite so cheap as they were. In better grades quality is not as good as it should be, though with the first touch of autumn character some invoices are now showing a marked improvement. Ceylon sales during October showed a big falling off in quantity, and several weeks not more than half the average quantity was catalogued. Quality, however, shows a distinct improvement, and many invoices have shown finer quality than has been seen for a long time past. With higher prices and light sales deliveries for the month showed a falling off, but with the heavier sales coming on now, and a tendency to easier rates for medium teas, this will soon be remedied. Congous continue very quiet except for price, and with nothing under $5\frac{1}{4}$ d. in Indians and Ceylons, and no Congous under $4\frac{1}{2}$ d., it is a little awkward for blenders who advertise blends at $8\frac{1}{2}$ d. and 9d. D.P. and C.P.

TRAGACANTH.—Full prices have been paid for what few packages have been sold this week, and, unless arrivals come to hand shortly, there is every likelihood of a further advance, London stocks being very low down. The quotation for Baghdad picked [firsts is 13l. 10s. per cwt.; for unpicked, 11l. 5s. has been refused, 11l. 10s. being wanted.

WAX, JAPAN.—Remains very firm, at 33s. per cwt. c. and f. terms.

English Honey-crop.

It is estimated that two-thirds of the total amount of honey produced this year has been spoiled by the substance that goes under the name of "honey-dew." Old aparians remember something of the same kind happening about thirty years ago, but except for that the circumstance is altogether unusual. Every year there is some honey-dew, but not twice in a century does it appear in such quantities as have been noticed this year. It is a dark sweet substance which, when the days are very hot and the nights chilly, may be seen to drop from the leaves and tender shoots of trees. Where it appears aphides also congregate, and at first it was believed to be a secretion of the green fly. But M. Garton-Bannier, who is a first authority on the subject, has shown that it is really a saccharine liquid—a kind of manna—produced in the leaves during hot dry weather, and that the bees are attracted by its sweetness, but, being able to digest only a small fraction of it, expel the rest into the comb. It exercises an overpowering attraction on the bees, which neglect all the flowers of summer to gather it, and the result is most disheartening. "I have got about 6 cwt. of honey nearly as black as coal-tar," writes a Somersetshire bee-keeper, and over the whole country the same complaint is heard. During recent years very great pains have been

taken to produce honey delicate alike in colour and taste. The bee exhausts one source of supply before it goes to another, and by dexterously removing the "sections" it is possible to get pure clover, or rasp, or lime honey, but honey-dew has played havoc with this modern refinement. Apart from this, it has been a shocking bad year. The true honey months were dry and windy and cold, and the hot weather came too late. That is as regards the south. In the north, where they rely on the heather, drenching rains made things still worse towards the end of the summer, when heather-honey is mostly made, the May to July crops being clover-honey.

Salt-trade of the U.K.

The official returns of the salt-trade of the United Kingdom for October disclose a decrease of 6,000 tons as compared with October, 1897, the total exports and coast-wise shipments reaching 71,465 tons. The Liverpool, Runcorn, and the Ship Canal dealt with 46,536 tons, a reduction of 3,724. Middlesbrough despatched 11,000 tons, or a decrease of 1,000 tons.

Coming Events.

We insert notices of association and society meetings in this section free if they are sent to us, on postcards, by the Wednesday of the week before the meetings are to be held.

Friday, November 18

Poor-law Dispensers' Association. Special general meeting at the Dispensary of the Holborn Union, Clerkenwell Road, E.C., at 6.30 p.m.

Saturday, November 19.

Tunnel Cricket Club. Sixth annual dinner will take place at the George Hotel, Tower Hill, E.C., at 6.45 p.m. A smoking-concert will follow the dinner.

Monday, November 21.

The Röntgen Society. Conversazione at St. Martin's Town Hall, Trafalgar Square, from 8.30 to 12 p.m.

Society of Arts, John Street, Adelphi, W.C., at 8 p.m. Cantor Lecture, by Professor Vivian B. Lewes, on "Acetylene." (No. 1.)

Wednesday, November 23.

Burgoyne Burbidge's Cricket Club. Smoking-concert at the Cannon Street Hotel. Tickets, 1s. each, may be had from the Secretary, 16 Coleman Street, E.C.

Pharmaceutical Society of Great Britain (North British Branch). Opening meeting, at 36 York Place, Edinburgh, at 8.30 p.m. Dr. Ralph Stockman, Professor of Materia Medica and Therapeutics in the University of Glasgow, will lecture on "Arrow-poisons."

Society of Arts, John Street, Adelphi, W.C., at 8 p.m. "Long-distance Transmission of Electric-power," by Professor Geo. Forbes.

Thursday, November 24.

Chemists' Assistants' Association. Annual reunion (smoking-concert) in the Grand Hall, Freemasons' Tavern, Great Queen Street, W.C., at 8 p.m. Tickets, 1s. 6d. each, are obtainable from Mr. C. Morley, 3 Bucklersbury, E.C.

Glasgow and West of Scotland Pharmaceutical Association. Annual dinner.

Saturday, November 26.

Metropolitan College of Pharmacy. Fifth annual dinner at the Holborn Restaurant. Dr. F. B. Power, F.C.S., will preside.

Medical, Surgical, and Hygienic Exhibitors' Association. Third annual dinner at the Café Royal, Regent Street, at 7 p.m.

The Pharmaceutical Football and Cricket Club will hold its annual smoking-concert in the Crown Room, Holborn Restaurant, on December 1, at 8 o'clock. Professor H. G. Greenish will preside. Tickets, 1s. 6d. each, are obtainable from the Secretary of the club, 17 Bloomsbury Square, W.C.

Sheffield Pharmaceutical and Chemical Society announce for December 14 a paper, by Mr. Geo. Squire (President), on "Company-pharmacy." January 11 is to be a students' night. On January 24 Mr. W. L. Howie will give a lantern-lecture on "Five European Capitals." February 8 is to be devoted to a discussion on "The division of the Minor Examination." February 9 is the date for the chemists' ball. On March 8 Mr. G. Ellinor is to speak on "Patent-medicine Stamp-licence and Anomaly," and on April 12 Mr. C. O. Morrison on "The Chemical and Microscopical Aspects of Blood."